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In Transition

1971

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH June 30, 1972

William J. Bicknell, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

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IN TRANSITION 1971 - 1972

The year that ended on June 30, 1972 was unique in the history of the Massachusetts Department of Public Health. Three commissioners guided the Department through its 103rd year — a year of changing emphasis in the delivery of health care. After 13 years of service to the Commonwealth, Alfred L. Frechette, M.D., resigned on December 31, 1971, to be followed in the post by Henry W. Kolbe, M.D., Superintendent of Pondville Hospital, who served as interim commissioner. William J. Bicknell, M.D., then assumed the position on May 16, 1972. The youngest state health commissioner in the country, Dr. Bicknell brings to the Department wide experience in the development of new types of health care delivery systems.

During the past year, the Department began a serious reassessment of its role in the delivery of health care, especially to those segments of the population who have had little access to primary care. Despite the technological and social changes that have had profound effects on the Department's programs and activities, many of the problems with which the Department has grappled are those it has faced since its organization over 100 years ago — contamination of the environment, adulteration of food supplies, increased incidence of some communicable diseases, development of ambulatory care, rational use of medical manpower and stronger emphasis on preventive medicine.

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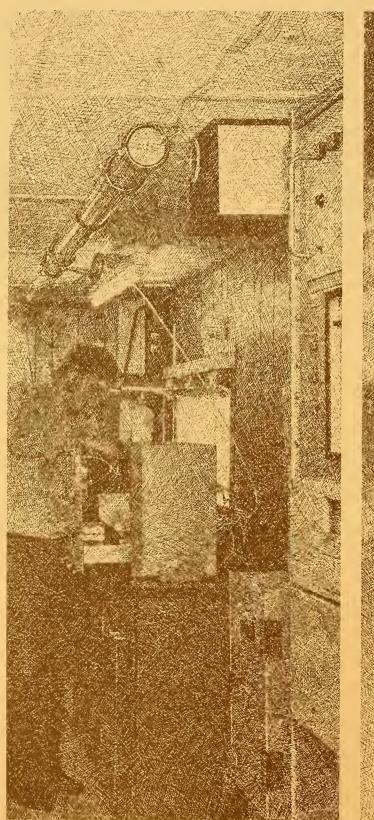
No longer is the Department of Public Health alone in its concern for creating a system of health services that will be available, accessible and acceptable to all of the people. Federal and state planning agencies, regional organizations and community groups, all are involved in the "business" of health care. In the proliferation of health-oriented groups, the Department has played an increasingly important role in the drafting and enforcement of regulations for health care and health facilities in the Commonwealth.

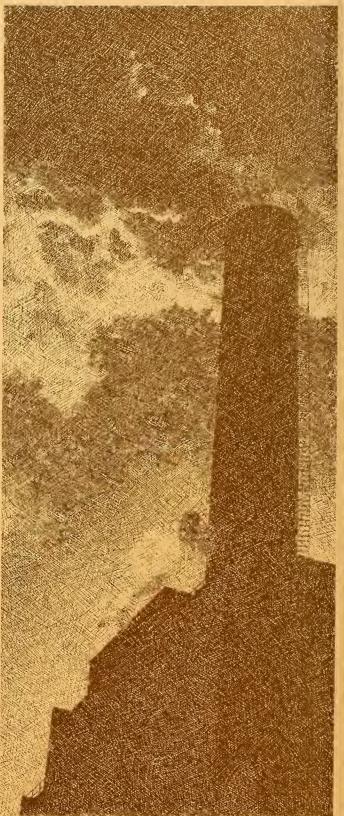
In selecting its priorities for the years ahead under Phase Two of the State Reorganization Plan, the Department has made more extensive use of system analyses of its major health programs. Data obtained will provide the information needed to plan new programs and improved services.

The achievements of the Department cannot be evaluated in terms of one year's activities. Its progress will be measured only after a period of time when long-range results are more clearly ascertained.

This 58th Annual Report is, therefore, a brief accounting of the activities of the Department of Public Health* during a transitional period in the delivery of health care to the people of the Commonwealth.

^{*}In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.





THE QUALITY OF THE ENVIRONMENT

As concern for improving and maintaining the quality of the environment has accelerated and intensified, the responsibilities of the Division of Environmental Health have grown. New state and federal regulations, especially those relating to air pollution and solid waste management, demanded the training of a larger staff of inspectors and engineers. Despite shortages of both staff and funds, the Division, through its separate Bureaus, has been able to make major contributions in restoring and preserving the integrity of the environment.

Water Supply and Water Quality

The Bureau of Water Supply and Water Quality, which is responsible for the environmental engineering aspects and surveillance of approximately 350 municipal water supply systems, approved 21 new sources of water supply, as well as plans for water treatment, storage and additions in 22 more communities.

The Director of the Bureau represented the Department on a committee established by the Legislature in 1971 to study the danger to ground water supplies and destruction of the environment by the use of chlorides or other chemicals to remove ice from public highways. The report of the committee, prepared by Arthur D. Little, Inc., Cambridge, will contain recommendations on the advisibility of prohibiting the use of these chemicals by enactment of new regulations.

An engineer in the Bureau served as chairman of a new Board of Certification of Operators of Drinking Water Supply Facilities, which held its first meeting on May 12, 1972. Massachusetts thus joined 30 other states with mandatory certification of operators of drinking water facilities to better protect the public health and to upgrade persons in the water works industry.

To maintain the purity of the state's drinking water, the Division notified all boards of water commissioners and owners of private water utilities of a new requirement to be met before approval of the supply by the Department: All storage facilities that supply public water supply systems must be covered, and all hatches on these units must be kept locked when not under the direct surveillance of personnel in the water department.

The Bureau continued to survey and classify over 40,000 acres of shellfish-growing areas along the 2,000 miles of Massachusetts coastline, and posted all shell-fish areas that were closed to shellfish harvesting because of pollution.

Other programs of the Bureau that are in operation throughout the year include: approval of all applications for the use of herbicides in the waters of the Commonwealth; and recommendations to cities, towns and lake officials for control of aquatic weeds or algae. The Bureau now has on file over 70 requests for assistance to control nuisance aquatic vegetation. Lack of funds has hampered the program.

Community Sanitation

The literal mountains of solid waste produced daily by the people of the Commonwealth have greatly increased the burden of the Bureau of Community Sanitation, which is responsible for the elimination of public health problems and nuisances created by the operation of insanitary waste disposal practices and facilities. As a result of the adoption of "Rules and Regulations for the Disposal of Solid Wastes by Sanitary Landfill," the Bureau handled 458 official communications relative to such problems in fiscal year 1972. These included reports of inspections, citations, plan approvals for sanitary landfills, and public hearings.

Because of the number of existing insanitary dump operations, priority had to be given to regulations on sanitary landfills. The Bureau is now preparing regulations for transfer stations and recycling facilities. In conjunction with the previously adopted regulations, the new regulations will be instrumental in achieving and maintaining an environment free of objectionable nuisance conditions and danger to public health.

As a step in coordinating the entire program of solid waste management in the Commonwealth, the Bureau cooperates with the Bureau of Solid Waste Disposal of the Department of Public Works, the Department of Natural Resources, and other state and local regulatory, operational and planning agencies.

The Bureau continues to regulate the disposal of liquid waste discharges into the ground. It reviewed and approved 16 reports and 21 sets of plans for municipal sewage systems and sewage treatment plants, as well as plans for 560 sewage disposal systems with a capacity of more than 2,000 gallons per day. This activity of review and inspection involved more than 50 percent of the regional offices' workload.

The inspection of all farm labor camps and their certification prior to their use by migrant farm workers is a permanent activity of the Bureau. Although the number of migrant workers has decreased in Massachusetts, the number of recreational camps for children, family camping grounds and motels continues to grow. All these facilities are subject to licensing, inspection and regulation by local boards of health, but the Division of Environmental Health is responsible for review of plans for disposal of sewage and for surveillance.

The Bureau received many requests for advice and assistance on the control of rats, bats, mosquitoes, flies, roaches and other insects. Since the control of such animals and insects goes beyond the activities of the Division of Environmental Health, the Division is represented on the State Reclamation Board, which has responsibility for mosquito control and other similar projects.

Air Quality Control

The change in name from the Bureau of Air Use Management to the Bureau of Air Quality Control reflects the new policies and direction of this important unit of the Division of Environmental Health. The establishment of 100 new positions and the installation of additional monitoring equipment have made it possible to step up routine surveillance of the ambient air, the acquisition and processing of data, review and approval of plans, investigation of complaints and the enforcement of regulations.

As a result of the passage of the 1970 Federal Clean Air Act, the Bureau was concerned with the preparation of the Massachusetts Implementation Plan and its submission to the federal Environmental Protection Agency by January 31, 1972. The Massachusetts plan, approved by the EPA with certain reservations and requests for minor revisions, detailed legislative authority, resources and strategy by which the air quality standards would be met and revised.

The plan is now essentially approved, with the exception of standards for oxides of nitrogen in the Pioneer Valley Air Pollution Control District, and of a traffic control strategy. As part of its overall program of implementation, the Bureau of Air Quality Control has awarded to private consultants studies that will continue into the next fiscal year. These studies — in traffic control strategy, the cost impact of the regulations on stationary sources, and the cost benefit ratio of control strategies — are essential to the success of the massive Massachusetts Implementation Plan.

Environmental Health Laboratories

The Lawrence Experiment Station and three district laboratories — at Amherst, Lakeville and Tewksbury — provide the laboratory services for the Division of Environmental Health. The workload of the six laboratories at the Lawrence Station increased as public concern mounted over the hazards to health created by pollutants in the water supply and ambient air. In the past year, the laboratories performed tests on the following samples:

Bacteriological	29,200
Chemical — Water Supply	9,911
Chemical — Water Pollution	2,493
Biological	1,268
Air Analysis	6,754
Radiological	3,374
Total	53.000

This represented an increase of 8,447 tests, or 20 percent, over the previous year. Not only did the number of samples increase, the number of individual analyses per sample also increased significantly.

The involvement of the Lawrence Experiment Station with other Divisions and agencies is responsible, in part, for the increased activities. During the past year, the laboratories examined a large number of shellfish samples for the Division of Food and Drugs. They also answered requests of the Division of Water Pollution Control for more analytical service for evidence, enforcement and implementation, in addition to planned harbor and river surveys.

Expanded research activities and special studies at the Lawrence Experiment Station covered a wide range of subjects:

- * A study on the use of cyanuric acid as a chlorine stabilizer in outdoor swimming pools was completed in fiscal 1972.
- *A survey of toxic metals in shellfish, benthal deposits, treatment plant digesters and plating waste discharges, activated in March 1971, will continue into 1973. During the period from March 1971 to June 1972, over 1,500 samples were analyzed to determine the concentration of mercury and other toxic metals such as selenium, cadmium, beryllium and zinc present in the waters and aquatic life of the Commonwealth.
- * Another ongoing project funded by the Division of Water Pollution Control seeks to develop a direct count of fecal coliform in sea water.

The Department, through its Certification Program for Water Bacteriology, has approved 70 public and private water laboratories, and 40 have been granted approval for Water Chemistry. During the year, the Department inspected 45 laboratories and granted certificates to four new laboratories.

Environmental Radiation Control

The Bureau of Radiation Control coordinates its activities in radiological health with other Bureaus in the Division of Environmental Health, and with other agencies in the field. The Bureau maintains a daily air filter sampling unit, which operates on a 24-hour basis. Samples taken are then analyzed for their gross beta activity and forwarded with the results to the National Radiation Surveillance Network. On three consecutive days in March 1972, following the detonation of a nuclear device by the People's Republic of China, the

monitoring station, using a special filter developed by the Lawrence Experiment Station, was able to pick up lodine-131, a radionuclide associated with fresh fission products.

To allay citizens' concern for the possible radiological effects of diversion of water from the Connecticut River into Quabbin Reservoir, the radiological laboratory carried out a cooperative study with New England Research, Inc., on the radioactive levels of the reservoir. It also served as the official testing laboratory of the Connecticut River for a tri-state project that included Massachusetts, New Hampshire and Vermont.

Pesticide Board

Although the Massachusetts Pesticide Board is under the jurisdiction of the Department of Public Health, it is an inter-Departmental agency with representation from the Departments of Public Health, Natural Resources, Agriculture, Public Works, the State Reclamation Board and the Division of Fisheries. Five public members, added to the Board in 1970, helped to broaden its base and to give groups outside of state government a stronger role in determining policies in the control of pesticides.

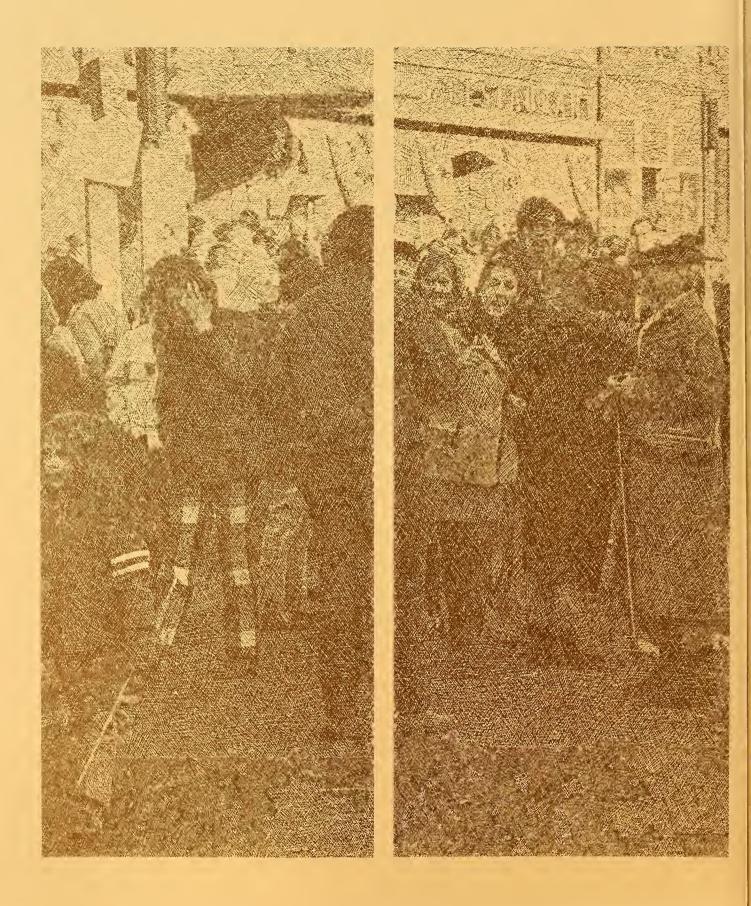
In 1971, the Board tackled the problem of how to deal with gypsy moth infestations. An advisory sent to cities and towns in the Commonwealth recommended that the gypsy moth be treated as a nuisance and that steps be taken to control it where man and the insect come together. This position was based on the opinion of the Department of Natural Resources that the gypsy moth in Massachusetts no longer caused high tree mortality despite repeated defoliation.

In the spring of 1972, the Pesticide Board held hearings on violation of regulations, which resulted in the suspension of five licenses. During fiscal 1972, the Board investigated 22 incidents of pesticide misuse or alleged misuse. At the present time, approximately 6,000 licenses to apply pesticides to public lands or land owned by other individuals are in effect.

The Pesticide Board, through the Pesticide Program Supervisor, carries out an extensive campaign of education and information for pesticide users and those who make decisions on pesticide use. A telephone log, begun in June 1971, totaled 1,375 calls as follows:

Complaints	265
Requests for Consultation	610
Administration	

Included in the last category were requests for copies of laws, regulations, examination applications, and requests for information on laws and registration of pesticides.



THE HEALTH OF THE COMMUNITY

To improve the health of the Commonwealth's 5,689,170 citizens remains a vital aspect of the activities of the Department of Public Health. How this can best be achieved in the decade ahead is receiving serious consideration from all divisions, units and programs. The Department continued to provide direct services through contracts, organized and implemented more special programs, and expanded outpatient care and ambulatory units in the seven Public Health Hospitals. At the same time, it has initiated, within and outside the Department, discussions predicated on organizational and philosophical changes of the role it must play in the next ten years.

COMMUNITY HEALTH

Through the four regional offices of the Division of Community Operations, the Department has provided a large volume of service to Massachusetts consumers despite a serious shortage of technical staff and funds. The activities and responsibilities are the same for all the regional offices and can be summarized as:

- * Technical assistance for sanitary programs and consultations on nursing, social work and nutritional programs.
- * Regulatory licensing of day care centers, application and regulations of the State Sanitary Code and Food and Drug Laws.
- * Preventive programs collection and interpretation of epidemiological material; patient care and follow-up designed to protect the public by treating the disease.
- * Direct patient services the Department either provides direct services or contracts with other medical agencies. These activities include the Handicapped Children's Programs, hospital outpatient services, rehabilitation programs, family planning and dental programs.
- * Planning, including development of new health systems, especially in association with the Comprehensive Health Planning B Agencies.

Although the emphasis may be different in one or another regional office, each office does participate in these multi-faceted activities.

In the past year, the Division embarked upon programs for sections of the population that are usually ignored in the traditional patterns of health care delivery. Of special importance was the prison medical program designed to inspect and to offer limited technical and clinical services in each of the 24 state and county prisons in Massachusetts. The report of the team of members of the Department indicated that apathy, perhaps more than any other factor, is responsible for the progressive decline in the personal health services in both state and county prisons and in the prison plant. The general conclusion was that most prisons are not fit for human habitation after any prolonged period of time. A Prison Health Project, designed to improve substandard medical care for inmates of correctional institutions, will start in the summer of 1972.

Alcoholism Program

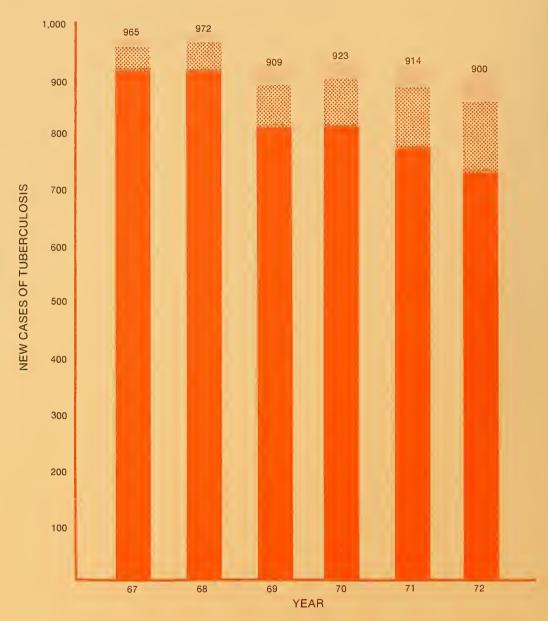
Passage by the Legislature of the Comprehensive Alcoholism Treatment and Rehabilitation Law has given the Division of Alcoholism broader responsibilities in the treatment and rehabilitation of alcoholics. The legislation is the first to define alcoholism as a medically diagnosable disease. The Division prepared a comprehensive state plan for the treatment and prevention of alcoholism and alcohol abuse. As a result, the Division received \$718,000 in formula grants from the federal government to be expended in fiscal year 1973. A large portion of the grant will be used to support local detoxification centers.

The Division has now drawn up rules and regulations for licensing the operation of detoxification centers. A 20-bed center was opened in Lynn, and others are in the planning stage for Quincy and Lawrence.

Another federal grant of \$150,000 for three years, routed through the Massachusetts Health Research Institute, made possible the establishment of an Occupational Alcoholism Rehabilitation Services Branch within the Division.

The Division expanded its support of Halfway Houses for Alcoholics. It was instrumental in forming the Massachusetts Association of Halfway Houses for Alcoholics, Inc., and entered into agreements with 26 halfway houses for financial support. The Division also maintained its support of 21 alcoholism clinics that serve a patient load of 12,000 in the Commonwealth.

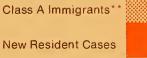
Table 1 NEW CASES OF TUBERCULOSIS IN MASSACHUSETTS



Excluding

- (1) Reactivations
- (2) Immigrants from continental United States
- (3) Foreign students and visitors
- (4) Temporary foreign residents
- (5) Class B immigrants*

Puerto Rico



^{*}Immigrants with inactive tuberculosis.

^{**}Immigrants with active tuberculosis.

Tuberculosis Control Program

Tuberculosis in Massachusetts remains a very present danger, and the goal of eliminating the disease is still far off. The number of newly diagnosed cases in Massachusetts citizens reported in the calendar year 1971 was 763 (Table 1). During the first half of fiscal 1972, 30 children developed acute, invasive pulmonary, meningeal or miliary tuberculosis. The flow of immigrants, as well as of emigrants from economically depressed and high risk areas, into Massachusetts makes control of infection and follow-up difficult.

The largest single clinical program of the Department, the Tuberculosis Control Program was able, however, to record achievement of its short-term goals. Fiscal 1972 marked the last full year of the child-centered tuberculin testing program; almost one-half million persons were screened for tuberculosis, excluding those who were also screened by the use of chest X-rays. About 138,000 children were tested in the schools. During the same period, care and surveillance continued for 16,000 patients; and drugs worth \$202,000 were dispensed under much stricter supervision to 8,000 citizens on anti-tuberculous therapy.

The emphasis that the Tuberculosis Control Program placed on integrated regional programs of inpatient and ambulatory care has produced results. A regional inpatient program was established at St. Vincent's Hospital in Worcester. Previously established regional TB programs at the Berkshire Medical Center, Springfield Medical Center and Salem Hospital continued to function extremely well. Proposals for 1972-1973 include the establishment of regional programs in the Lowell area, in Lawrence for the eastern half of the Merrimack Valley, in Cambridge for both the Cambridge and Somerville areas, and in New Bedford.

To compensate for the lack of a coordinated interhospital home-care referral system, the Tuberculosis Control Program developed a core of community health assistants or community health workers. Their function was to work throughout the state to ensure that services were maintained after discharge of patients, and to provide additional support for immigrants, especially those with language difficulties. Cantonese-speaking workers were employed in Boston, and Spanish-speaking assistants were recruited for Boston and the Merrimack Valley. The Center for Disease Control (Public Health Service, HEW) has recognized the special problems in Massachusetts that stem from the immigration of persons with active tuberculosis. Now, the state may soon be able to embark on the first federally approved BCG (bacille Calmette Guerin) vaccination program, which will provide active protection against initial infection by the tuberculosis mycobacterium.

Fluoridation Program

Fluoridation of the communities on the Metropolitan District Commission water supply was the main concern of the Fluoridation Project. At the same time, the Project continued its program of education throughout the state. Exhibits, pamphlets and other written material helped communities that faced referenda during the year. By the end of June 1972, 16 percent of the state's population were receiving fluoridated water. An additional 3 percent will be receiving fluoridated water in the near future. When fluoridation of the Metropolitan District Commission's water supply takes place, more than 50 percent of the state's population will receive fluoridated water. This will put Massachusetts within the average for the United States.

Dental Health

The general objectives of the Dental Health Program — to control and prevent dental disease through organized community efforts — were carried out through the regional offices. The proliferation of dental activities through the Social Security mechanism, however, has shifted attention almost exclusively to state-directed services.

In cooperation with the Division of Environmental Health, the Dental Health Program carried out a study of mercury levels in dental offices. Measurements indicated some levels of mercury contamination, but the study showed that exposure to mercury had produced no demonstrable effects on dentists or their assistants. The two Divisions, however, recommended preventive guidelines for maintaining safe levels of operation.

GONORRHEA MASSACHUSETTS 1960 - 71

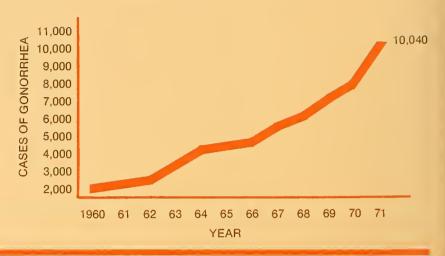


Table 2

GONORRHEA IN MASSACHUSETTS



Table 3

Communicable Diseases in Massachusetts

	1971	. 1972
Gonorrhea and syphilis	12,441 cases	10,896
Chickenpox	9,169	8,162
Mumps	1,003	2,306
Viral Hepatitis	1,696	1,990
Scarlet Fever	1,077	1,669
Rubella	503	1,024
Measles	594	363

Table 4

CONTROL OF COMMUNICABLE DISEASES

The state-wide immunization programs of the Department continue to record impressive progress in controlling measles, mumps and rubella:

- *Measles down from 19,512 cases in 1965 to 276 in 1971, a drop of 98.1 percent.
- *Mumps down from 9,024 in 1969 to 1,887 in 1971, a drop of 79.1 percent.
- *Rubella down from 1,461 in 1969 to 862 cases in 1971, a drop of 41 percent.

During the first six months of 1972, when a biviral vaccine for measles and rubella was first used, 35,371 children were immunized. In fiscal 1972, the following doses of vaccine were administered:

*Measles	187,866
*Mumps	194,316
*Polio	826,450
*Rubella	264,612

As a result of this widespread immunization program in the state, epidemics cannot occur. However, focal epidemics in communities with pockets of low immunization not only will but have occurred. The objective of the Division of Communicable Diseases is to have local communities carry out intensive immunization programs and to help those that need assistance.

The first case of polio in Massachusetts since 1967 and the first death from the disease since 1962 occurred on August 18, 1971. The patient, a 63-year old woman from Lowell, had never been immunized with either the Salk or Sabin vaccine. The Division quickly organized a polio immunization program in Lowell and administered 863,320 doses of Sabin vaccine.

The prevalence of other immunizable diseases remains low. Only 18 cases of whooping cough were reported in 1971, a drop from 49 in 1970; and there were no reported cases of smallpox, diphtheria or tetanus.

As part of its program to control and eventually eliminate those communicable diseases for which immunizing agents are available, the Department will provide new vaccines when they are licensed. As soon as the price of the triviral vaccine for measles, mumps and rubella is reduced to about \$3 per dose, the Department will phase out both the monoviral and biviral vaccines and use only the triviral.

VENEREAL DISEASE PROGRAM

Of the five reportable venereal diseases, gonorrhea is both pandemic and epidemic in Massachusetts, as well as in the rest of the country. Control of gonorrhea remains difficult. About 75 percent of infected females have no symptoms of the disease and are, therefore, carriers. In addition, diagnosis in women is difficult, symptoms are non-specific, and a culture must be done for definitive diagnosis.

During the calendar year 1971, gonorrhea increased in Massachusetts by 25.1 percent, from 8,026 reported cases in 1970 to 10,040 in 1971. For the eleven-year period from 1960-1971, the incidence of gonorrhea rose from 2,453 to 10,040 reported cases, a formidable increase of 309.3 percent (Table 2). The estimated number of cases in 1971 was approximately 80,000. This figure is based on a survey indicating that only 12 percent of treated cases of gonorrhea are reported (Table 3).

For the second consecutive year, primary and secondary syphilis showed an increase from 314 reported cases in 1970 to 320 in 1971; early latent syphilis increased by 3 percent. Based on the above survey, the estimated number of cases of syphilis in 1971 was approximately 2,500.

The Division continued to attack venereal diseases through its program of education, treatment and control. The 22 cooperating state venereal disease clinics examined 21,435 patients (a total of 55,620 visits).

In December 1971, the cephaloridine study on the treatment of primary and secondary syphilis was completed and tabulated. Each of the patients studied had received at least one year's follow-up. The conclusions indicated that cephaloridine, a licensed antibiotic, is, in the schedules used, effective in the treatment of primary and secondary syphilis.

The Division received a \$325,000 federal grant for a gonorrhea screening program in women, and a second grant of \$28,730 from the Public Health Service (HEW) to act as one of eight monitoring stations in the country for gonorrhea control. The objective is to evaluate various treatment schedules and antibiotics in the treatment of gonorrhea. Gonorrheal cultures from current patients will be tested for levels of penicillin sensitivity.





IMPROVED PATIENT CARE

The Department of Public Health has seven hospitals equipped for a broad range of clinical services intended especially to meet the needs of patients with long-term but remediable disabilities. To answer the increasing demand for health services in an expanding population, the seven hospitals have assumed a more direct role in serving the communities in which they are located. They now provide preventive, therapeutic and rehabilitative services that are often difficult to obtain.

Concomitantly, the Department has instituted a discussion on what its role should be in the provision of medical care through the seven hospitals. Meanwhile, the hospitals have continued to work closely with regional planning groups to develop programs for needed services. New services and programs indicate the approach the hospitals will take in the decade ahead, whether through the Department of Public Health or a new bureau of hospitals:

- * The number of renal dialysis treatments at the Lakeville Hospital increased from 793 in 1971 to 1,369 in 1972. The dialysis unit at the hospital is taking care of the major needs for renal dialysis in Southeastern Massachusetts.
- * In January 1972, the Lemuel Shattuck Hospital was designated the first Regional Vascular Center for Massachusetts. The purpose of the center is to upgrade the quality of care for vascular patients and to encourage the addition of vascular services for hospitals throughout the Commonwealth.
- * Under a special grant, the Massachusetts Hospital School was able to send ten of its high school students to the Blue Hills Regional Technical Vocational School. Five students studied advanced electronics; the other five,

- data processing and computer programming. The program was so successful that the Blue Hills School is now offering enlarged areas of vocational studies to the Hospital School students.
- * Because of its location and exemplary record in the treatment of cancer patients, Pondville Hospital is now operating as a major hospital in the Tri-State Regional Medical Cancer Program with Boston University Medical Center. Pondville is functioning with approximately 20 other hospitals in the area of the state from which it draws about 50 percent of its patients.
- * Rutland Heights Hospital, through its Alcoholism Unit, admits and treats more alcoholics, both men and women, than any other institution in Central Massachusetts. During the year, there were approximately 800 admissions, about one-third of which were readmissions. Only a few patients came for detoxification; the majority had the potential for rehabilitation.
- * Tewksbury Hospital is introducing innovative courses that go beyond the hospital walls. In the past year, 33 ministers, priests and nuns completed a 12-week pastoral training course at the hospital on how to administer to the sick and dying.
- * Western Massachusetts Hospital reactivated a 38-bed physical medicine and rehabilitation ward under the direction of a board-certified physiatrist. Consultation services in these two fields are now available to any patient at the hospital when referred by his attending physician. An outpatient clinic that offers both consultation and treatment is also in operation.



Table 5
DIVISION OF PATIENT CARE OPERATIONS
YEARLY CENSUS SUMMARY — JULY 1, 1971 - JUNE 30, 1972

	Bed Complement	Av. Daily Census	Av. Length of Stay	Out-Patient Visits	Total Patient Days
Lakeville	240	157	116	1,947	57,986
Lemuel Shattuck	250	215	25	13,935	78,705
Mass. Hospital School	161	106	254	896	38,969
Pondville	83	73	22	17,655	27,096
Rutland Heights	200	156	85	4,097	57,339
Tewksbury	1,326	938	261	0	402,556
Western Mass.	133	56	28	15,293	20,728
Totals	2,393		_	43,823	683,379

The seven hospitals, with an aggregate bed count of 2,558 when used to capacity, admitted 7,616 patients during fiscal 1972. The average length of stay varied from 22 days at Pondville Hospital to 261 days at Tewksbury Hospital. The shift in emphasis from custodial to ambulatory care is indicated by the number of outpatient visits — 43,823 (Table 5). The hospitals provide the following services:

Services

Comprehensive rehabilitation for

other chronic illnesses in adults;

rehabilitation program.

Hospital

Massachusetts

Lakeville

, ,	children and adults; chronic renal dialysis; residential asthma center for children.
Lemuel Shattuck	Medical and surgical care of chronic illness; renal dialysis unit; alcoholic unit; regional vascular center.
Massachusetts Hospital School	Education and vocational training, medical and surgical care of physically handicapped but mentally normal children.
Pondville	Treatment of cancer in adults and children; regional cancer center.
Rutland Heights	Long-term hospitalization of adults with chronic diseases; rehabilitation; alcoholic unit; multiphasic screening.
Tewksbury	Medical and surgical care of chronically iil and severely handicapped adults and children; alcoholism program.
Western	Long-term tuberculosis, cancer and

As interest in careers in health fields accelerated, the Department's hospitals were being used more extensively for practical training in health related programs.

Ten teacher-interns who had earned one-third of their credits at the Massachusetts Hospital School received their master's degrees from Tufts University.

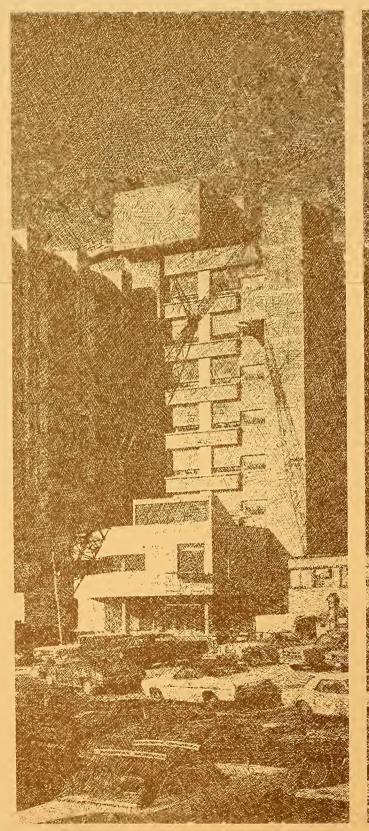
Rutland Heights Hospital, in affiliation with Becker Junior College, gave practical training to 30 students preparing to become medical secretaries. The program will be expanded to include students in health administration, physical therapy, social service and in education as teacher's aides.

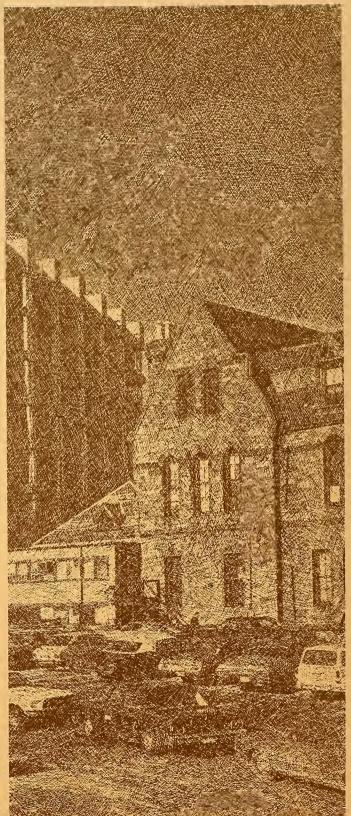
In January 1972, the Western Massachusetts Hospital initiated a program in affiliation with Springfield College. Graduates students studying for advanced degrees in Adaptive Physical Education and Rehabilitative Therapy did their field work at the hospital.

A group of students from Lowell State College began a six-week program in leadership roles at Tewksbury Hospital. This is the first program on a baccalaureate level to use Tewksbury for clinical experience.

Lakeville Hospital provided educational services to Bridgewater College students in Special Education, the Lynn Hospital School of Nursing, the Quincy Hospital School of Nursing, Lasell Junior College, Bristol Community College, Brockton Hospital, and to St. Luke's Hospital in Middleborough.

A major function of all hospitals is research. At the seven Departmental hospitals, research, especially in the areas of cancer, heart disease and stroke, is being expanded and encouraged.





THE STATE LABORATORY INSTITUTE

The State Laboratory Institute, through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, continued to provide many services to the Commonwealth with a total annual budget of less than \$2 million:

- * Research and development of new technology
- * Performance of a variety of tests on approximately three-quarters of a million specimens for clinical diagnostic purposes
- * Production and distribution of serums and vaccines (approximately 2.5 million doses) for use throughout the Commonwealth
- * Diagnosis of rare or exotic diseases
- * Establishment of new diagnostic tests

Biologic Laboratories

The Division of Biologic Laboratories took a leading role in a national series of studies to determine whether a special immune serum globulin is more effective than conventional gamma globulin in preventing type B hepatitis (formerly known as serum hepatitis). The new globulin for the entire national program was produced at the Massachusetts laboratories.

Rh immune globulin, which is given to mothers to prevent Rh disease of their newborns, was distributed free to all Massachusetts hospitals with obstetrical services after the Biologic Laboratories had received a federal license for its manufacture.

A new method for producing smallpox vaccine was devised to yield a better product. Despite federal recommendations that routine vaccination of children be discontinued, the demand for the vaccine remained relatively high.

Diagnostic Laboratories

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assists local laboratories throughout the state to achieve a high degree of excellence in the performance of clinical laboratory tests. During 1971-1972, the Program evaluated 277 local laboratories — 30 more than in the previous year — for the performance of one or more specified test categories. The Laboratory Improvement Program sent

out 23,138 proficiency test specimens; the average number received by each participating laboratory was 83.

The Laboratory Improvement Program has arranged to join the New England Regional Proficiency Testing Program for clinical chemistry, which is conducted by the laboratories of the Connecticut State Department of Health. Participation will broaden the basis for statistical analyses by incorporating Massachusetts laboratories with those already participating in Connecticut and Maine.

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism, and identified more infants with such disorders than at any time since the inception of the program in 1962. Several additional programs of importance were begun. Among these was a preliminary study of the feasibility of using filter paper specimens of umbilical cord or newborn peripheral blood to determine sickle cell disease via hemoglobin electrophoresis.

The Laboratory also distributed a urine dip stick to obstetricians and general practitioners in the Commonwealth to permit testing of urine samples, prenatal and premarital, for PKU. This program will identify potential mothers with PKU before they give birth and thus allow therapy to be initiated during pregnancy.

Evaluation of specimens on children admitted to institutions for the retarded and mentally ill throughout the Commonwealth is a continuing program of the Metabolic Disorders Laboratory.

Although damage to the fetus by rubella infection is well known, birth defects produced by other agents in utero have only recently been the subject of investigation. The Virus Laboratory has, in the past year, assumed a major effort in the diagnosis of congenital defects produced by rare infectious diseases transmitted across the placenta. Testing was done on both maternal and neonatal serums.

For the second consecutive year, Eastern equine encephalomyelitis (EEE) occurred in equines in Massachusetts. Sixteen cases were reported to the Department of Agriculture, Division of Animal Health. No human cases occurred.

Table 6

FIVE YEAR SUMMARY OF NUMBER AND KINDS OF SPECIMENS EXAMINED BY THE DIAGNOSTIC LABORATORIES

Bacteriology	1968	1969	1970	1971	1972
Agglutinations	4,580	2,566	2,535	2,420	2,247
Enteric Pathogens	11,979	12,512	13,830	13,019	13,126
Gonorrhea	7,107	5,614	6,461	13,463**	* 17,373***
Malaria	3	3	_	_	
Mycology	221	154	195	147	183
Throat Cultures	113,858	114,845	143,157	166,586	168,075
Tuberculosis	4,122	4,115	4,687	5,152	2,345
Vincent's Gingivitis	21	16	10	18	34
Food	*	53	68	45	20
Miscellaneous	458	370	1,270**	460	817
Totals	142,349	140,248	172,213	201,310	204,220
Wassermann					
Syphilis Serology	489,726	455,190	415,162	376,559	370,019
Rabies	672	616	632	691	696
Totals	490,398	455,806	415,794	377,250	370,715
Virus					
Virus Isolations	400	528	280	331	779
Virus Serology	528	2,423	6,172	5,416	2,581
Encephalitis Progra	m 1,904	3,633	3,687	4,260	1,567
Rubella Program	975	1,166	4,791	4,832	7,700
Totals	3,807	7,750	14,930	14,839	12,627
Metabolic Disorders					
PKU Screening	190,527	204,761	203,540	229,945	203,939
Special Studies	16,719	114,933	131,583	3,588	3,756
Totals	207,246	319,694	335,123	233,533	207,695
Grand Totals	843,800	923,498	938,060	826,932	795,257

^{*}Included under Miscellaneous prior to Fiscal 1969.

Service Plus

The functions of the State Laboratory Insitute must, in the decade ahead, be more than the provision of services. Major objectives outlined by the Institute are:

- 1. Increased assistance to public and private laboratories in the area of laboratory improvement and quality control.
- 2. Provision of more ready access to laboratory tests of an unusual or highly specialized nature.
- 3. Full utilization of the unique capabilities of the Division of Biologic Laboratories as both a state and national resource to ensure the quality and availability of immunizing agents and specialized blood products.
- 4. Greater emphasis on the rapid development and general introduction of new laboratory tests and techniques of potential public health benefit.
- 5. More effective use of contemporary data processing methods to assist Departmental divisions and other concerned agencies in the recognition and management of problems of disease surveillance and control.

MEDICAL CARE

The enormous task of ensuring the people of Massachusetts safe health care is carried out by the Department through its program of standard setting, inspection, licensure and review. The Division of Medical Care bears the responsibility for the establishment of quality control and utilization, and the development of resources in a health care system that includes more than 2,000 health facilities — hospitals, nursing homes, rest homes, clinics, infirmaries, home health agencies, homes for unwed mothers, ambulances and independent laboratories. It is also responsible for the inspection of all diagnostic and therapeutic X-ray units in hospitals, private offices and nuclear medicine departments.

Certificate of Need

To prevent unnecessary building of new, or expansion of, existing health facilities and to brake the spiraling of hospital costs, the Legislature passed Certificate of Need legislation for the period from November 1971 through May 1972. The legislation, which gave the

^{**}Includes 900 Gonococcus cultures.

^{***}Includes Gonococcus cultures plus smears.

Department of Public Health the legal authority to control construction and expansion of health facilities, required the Department to issue a certificate of need for any health facility that met any one of the following criteria:

- 1. Construction of a new health facility with a capital expenditure of \$100,000 or over.
- Addition to or alteration of an existing health care facility with a capital expenditure of \$100,000 or over.
- 3. Issuance of an original license.

The Bureau of Resource Development in the Division of Medical Care is responsible for the administration of this program, which has had a substantial impact on the development of health care facilities in Massachusetts in its six months of operation. During the period from November 15, 1971 through May 31, 1972, the Division received 236 applications, 185 of which were subject to the terms of the legislation. By May 5, 1972, the Public Health Council had acted on 185 applications, approved 105 (total cost, \$257,103,395) and denied 11 (total cost, \$10,280,000).

The Bureau continued to participate in the administration of the Hill-Burton Program for the construction and modernization of hospitals and other medical facilities. Twenty applications were received for fiscal 1972.

An important aspect of the Bureau's work, and one that will undoubtedly grow in the years ahead, is the planning of improved mechanisms for collecting data for projected health facilities. The Bureau carried out a study of the origin of inpatients in all hospitals in the state, and a study of the occupancy rates and length of stay in all long-term care facilities for the calendar year 1970. The Bureau was also responsible for the collection of systematic data on all hospitals with maternity and newborn services, an essential tool in the Division's efforts to regionalize maternity and newborn services in the state.

Standards and Patient Care Review

The Bureau of Standards and Patient Care Review prepared drafts of new hospital licensure regulations for continuing care, nursing services, intensive care, and nursing homes for children. All of these regulations were approved by the Public Health Council. The program of revision was part of the development of a project with the Joint Commission on Accreditation of Hospitals, in cooperation with the Massachusetts Hospital Association and the Massachusetts Medical Society. The project,

which includes the development of uniform standards for licensure and certification, joint hospital surveys and coordinated data collection, is aimed at improving services throughout the Commonwealth.

Under the Blood Bank Evaluation Program, the Bureau inspected 56 facilities for compliance with blood bank licensure regulations. It continued to collect on a monthly basis data on utilization of blood and its components from each of the 158 blood banks in the Commonwealth.

Planning and Construction

The Bureau of Planning and Construction is responsible for overseeing the planning, design and construction of all health care facilities in the state, including those under Hill-Burton. In 1972, the Bureau received for approval approximately 260 plans for construction and made payments of \$18,000,000 for the Hill-Burton program.

Bureau of Health Facilities

In fiscal 1972, the staff of 32 surveyors of the Bureau of Health Facilities carried out a major drive to survey and recommend to the Department of Public Welfare that certain nursing homes be classified as "skilled." The Bureau recommended 204 nursing homes for certification as "skilled" under the Medicaid program; it denied 16 requests and deferred four. It also recommended 439 facilities, agencies and other providers for certification under Medicare.

Radiation Control

The activities of radiological health specialists in the Bureau of Radiation Control have multiplied as concern for the possible dangers from excessive radiation has intensified. The Bureau of Radiation Control prepared new regulations for radiation therapy in clinics and hospitals. Approved by the Public Health Council, these regulations provide stricter control over radiation therapy, equipment and personnel.

The Bureau carried out its annual surveillance of 1,600 diagnostic X-ray tubes, 800 dental tubes, 50 radiation therapy devices, 110 radium installations, 65 institutions that use radioactive isotopes, 150 microwave ovens, 50 lasers and 300 diathermy units.

Aiding the Division of Medical Care in its multifaceted responsibilities and functions is the Information Systems Unit. The unit has developed information systems on blood banks, nursing home-patient file, births and neonatal deaths, and ionizing and non-ionizing radiation sources.



FAMILY HEALTH

Through the Division of Family Health Services, the Department continued to carry out many programs that aim to reduce infant and maternal morbidity and mortality, promote maternal and child health, and evaluate and treat handicapped children.

Handicapped Children's Services

One of the primary goals of the Bureau of Handicapped Children's Services is the identification of handicapped children at an early age so that they may have an opportunity to develop to their greatest potential. To facilitate the Bureau in this work, the Information and Referral Center for Services to Handicapped Children continues to function as a referral resource. Because services for the handicapped child are frequently supplied by more than one state agency, the Department has been participating with the Departments of Mental Health and Public Welfare, the Commission for the Blind and several private social and welfare associations to prepare a proposal for an automated system of health, welfare and social services.

The Division expanded its network of clinics for handicapped children to meet the demand for services in areas of the Commonwealth not previously reached. A cerebral palsy clinic and a myelodysplasia clinic were established at the Massachusetts Hospital School. The myelodysplasia clinic provides neurological, orthopedic, urological and pediatric services, as needed, at a single clinic visit. Other clinics were put into operation at the Northeastern Regional Office, located at the Tewksbury Hospital.

The Handicapped Children's Program and the Epilepsy Control Program jointly established outpatient neurology clinics for patients who could not easily reach the medical centers of Boston. Five clinics are now in operation at: Tewksbury Hospital, Tewksbury; Barnstable County Hospital, Pocasset; Hubbard Regional Hospital, Webster; Harrington Hospital, Southbridge; and the Berkshire Medical Center, Pittsfield.

An important aspect of the work of the handicapped children's clinics, which provided services for 1,205

new patients, is the genetic counseling that is available to all families.

As a result of the success of the preschool center for handicapped children established at the Dimock Street Health Center in Roxbury by the Division of Family Health Services, two more preschools were started—one at Tewksbury Hospital, the other at the Massachusetts Hospital School. These centers provide developmental and emotional stimulus to the handicapped and non-handicapped, and seek to prepare children for admission to public school and to keep them under home care.

Child Growth and Development

The Children's Developmental Clinic is concerned with the interaction of the child's social, intellectual and emotional development with his physical development. Children with developmental handicaps are evaluated at the clinic by a multi-disciplinary team and proper referrals are made. In the past year, the clinic evaluated 150 new patients and continued to give care to 325 patients previously seen.

Family Planning

During 1972, the Family Planning Program of the Division of Family Health Services provided assistance and consultation to family planning programs throughout the state. One of the major functions of the program was to help communities move from the conceptual state to the operating stage. Expansion of this role is envisioned for the next year.

The Maternal and Infant Care Project and related Children and Youth Projects continued to provide comprehensive health care to low income residents of Boston. The Department contracted with six major teaching hospitals and the Visiting Nurse Association of Boston to provide free services to eight satellite neighborhood clinics. Prenatal and postpartum care, family planning counseling, as well as preventive child health and dental services, were provided by medical and paramedical professionals.

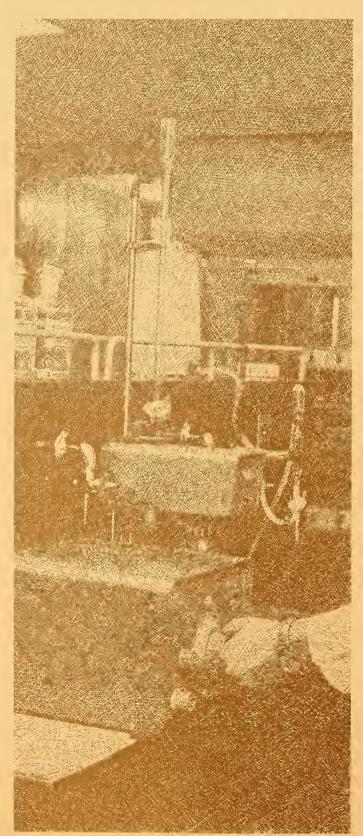




Table 7
DRUG SAMPLES SUBMITTED
TO BOSTON LABORATORY
FOR CHEMICAL ANALYSIS

FISCAL YEAR SA	MPLES
1967	3,338
1968	11,243
1969	21,995
1970	30,048
1971	39,760
1972	46,748

CONSUMER PROTECTION

A consumer population, more sophisticated and more vocal than at any time in the past, expects public agencies to maintain a healthy environment. Aware of the hazards to health that surround him — whether it be airborne pollutants from smokestacks and open-burning dumps, carelessly packaged foods, flammable clothing, or improperly marked medications — the consumer demands of the Department of Public Health more and stricter controls.

The Division of Food and Drugs is charged with the responsibility of protecting the consuming public from the detrimental effects of chemicals, adulterated foods, unsanitary bedding and upholstery. The Division is also responsible for the licensing of vending machines, cold storage warehouses, upholstered furniture, stuffed toys; the licensing of manufacturers of narcotic drugs and establishments that use animals for experimental purposes; the licensing of slaughterhouses and meat and poultry establishments.

The enormity of the task of the Division in only one area — inspection of food — is evident from the following data: The inspections of food cover the whole distribution chain from the source of food to the ultimate purchase by the individual consumer. Included in this cycle are more than 1,350 food trucks, about 1,225 wholesale distribution plants, and almost 40,000 retail food outlets.

The regulation of milk and milk products represents a separate and distinct phase of food control. The Division supervises and inspects pasteurization plants throughout the state. In the last fiscal year, it performed more than 4,170 laboratory analyses of samples of milk, cream and frozen dairy desserts.

Recent emphasis upon "organic food" and "natural food" has added a new element to the work of the Division of Food and Drugs. By merely looking, a consumer cannot distinguish a product that has been subjected to pesticides, preservatives or other artificial substances from one that has not. Nor can chemical analyses, in some instances, detect whether a product has been subjected to an artificial substance.

To protect the consumer from intentional or unintentional fraud in the promotion, advertising and sale of "organic" and "natural" foods, the Division held a public hearing on the subject in June 1972. The Department hopes that meaningful regulations to prevent abuses in this new field of consumables will result from this hearing.

Polychlorinated Biphenyls (PCB)

An important new area of investigation and testing for the Division is in polychlorinated biphenyls (PCB), which have been produced since 1929. These substances have a wide range of uses — in heat exchange liquids, lubricants, hydraulic fluids, paints, plastics, resins, inks, waxes, adhesives, rubber, asphalt, and in various building materials. Their value in industry stems from their ability to withstand temperatures up to 1600° F. (870° C.).

The Federal Food and Drug Administration has been studying PCB contamination since 1966, but research on toxicity of PCB's is still incomplete. A meeting of representatives from the U.S. Department of Agriculture, Food and Drug Administration, the Massachusetts Department of Agriculture, the Massachusetts Farm Bureau, the University of Massachusetts and the Division of Food and Drugs took place in September 1971. As a result of that meeting, the Food and Drug Laboratory in Amherst has been analyzing, on a routine basis, samples of feed, eggs, meat and poultry from Massachusetts farms and markets for evidence of PCB contamination.

When the Federal Fair Packaging and Labeling Act was signed into law on November 3, 1966, it culminated a five-year effort in Congress to enact so-called "truth in packaging" legislation. From July 1, 1971 to June 30, 1972, the Department, through the Division of Food and Drugs, participated in a survey funded by the federal government to determine whether retail products sold in the Commonwealth complied with the specifics of the Fair Packaging and Labeling Act. Because of the many violations found during the survey, the Division held a public hearing on June 21, 1972 on the need to adopt state regulations to conform to those of the federal government. Approval of "Massachusetts Uniform Packaging and Labeling Regulations" is anticipated in 1973.

An expanding area of responsibility of the Division is the safe distribution of drugs. The growth in the use of illicit drugs has put an additional burden on the Division, which conducts analyses of drugs, as well as of liquors and poisonous substances, for the Department of Agriculture, the Alcoholic Beverages Control Commission, the Department of Natural Resources and for local and state law enforcement agencies.

During the past fiscal year, the Drug Analysis Section analyzed 46,748 samples, an increase of 6,988 samples over the previous fiscal year, and an increase of 43,410 samples over those submitted in 1966-1967 (Table 7).



STAFF SERVICES

HEALTH EDUCATION

After a lapse of ten years, COMMONHEALTH resumed publication, during the winter of 1972, as a quarterly magazine of the Department to acquaint the people of the Commonwealth with the Department's programs and to clarify their purposes.

A series of short articles to inform physicians of the programs of the Department was prepared for publication in the New England Journal of Medicine; the first article appeared in July 1971. As a result of the interest expressed by private physicians, not only in Massachusetts but throughout the country, the Department, through the Division of Community Operations, instituted a biweekly column to replace the old one that had been limited to statistics on communicable diseases and the listing of crippled children's clinics. The Office of Health Education has reprinted the Journal articles in two series, each covering a period of six months.

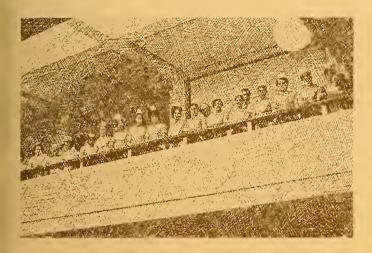
HEALTH RESEARCH

The Office of Health Research received a contract award of \$97,000 to cooperate with the National Cancer Institute's End-Results Section in cancer research and studies of end-results of treatment. Other new programs undertaken by the Office include: studies of problems relating to care of cancer patients from different types of hospitals and from mental institutions; an interview study of patients with cancer of the larynx to explore patients' occupational histories as possible etiologic factor; an ischemic heart disease study of sudden death by investigation of patients who are dead on arrival and whose deaths are certified by the medical examiner.

To improve analyses of vital event data involving ethnic groups and country of origin, the Office of Health Research developed a new system of race coding that will provide more useful and more rational information.

PLANNING

Development of information systems on health status and services on a state-wide basis continued as one of the main activities of the Office of Planning. The Office initiated and carried to a successful completion application to the federal government for financial support. In collaboration with the Executive Office of Human Services, the Office received approximately one-half million dollars for a three-year period. This Federal-State-Local Health Informations Grant will expand and strengthen the existing facilities inventory retrieval and maintenance system and long-term patient file.



THE DECADE AHEAD

Preliminary discussions and observations point to changes within the Department of Public Health for the decade ahead. Questions that have been raised, and which may find answers in the reorganization plan now being prepared for legislative approval in 1973, deal with the role of the Department of Public Health in relation to other agencies within the Commonwealth. Clearly, the improvement of the quality of medical care through the strengthening of the regulatory functions of the Department is a top priority. Concurrently, the provision of basic preventive and protective services of the Department is another vital role that must be maintained.

The growing sophistication of the public about health matters and the delivery of health care will put greater emphasis upon new methods of providing essential clinical services, and greater participation of consumers in making decisions. The appointment of three new members to the Public Health Council by Governor Francis W. Sargent in June 1972 brought to the Council individuals with extensive experience in the fields of health care delivery and the organization of health services.

Whatever changes take place in its organizational structure, the Department of Public Health will continue to update its programs and participation in the creation of new patterns of care to guarantee the most effective health care programs for the people of the Commonwealth.

DEPARTMENT OF PUBLIC HEALTH

ORGANIZATION

OBGANIZATION

DIVISION OF PATIENT CARE OPERATIONS

Lakeville Hospital

Lemuel Shattuck Hosp.

Mass. Hospital School

Pondville Hospital

Rutland Heights Hosp.

Tewksbury Hospital

Western Mass. Hosp.

Kidney Disease Program DIVISION OF COMMUNITY OPERATIONS

REGIONAL OFFICES

Central Region

Northeastern Region

Southeastern Region

Western Region

PROGRAM OFFICES

Alcoholism

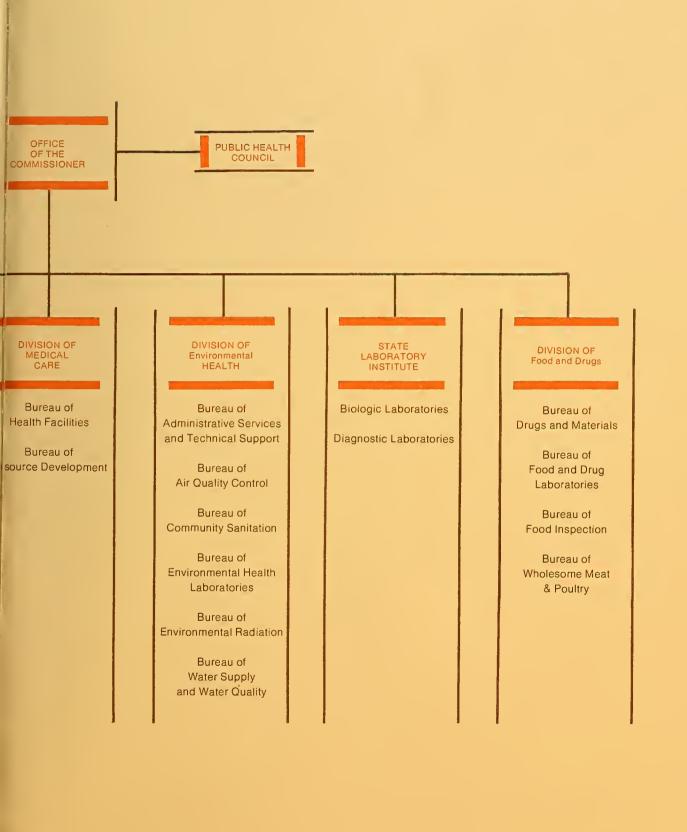
Communicable Diseases

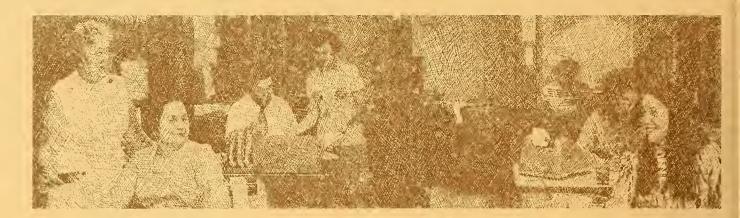
Tuberculosis Control

DIVISION OF FAMILY HEALTH SERVICES

Bureau of Handicapped Children Services

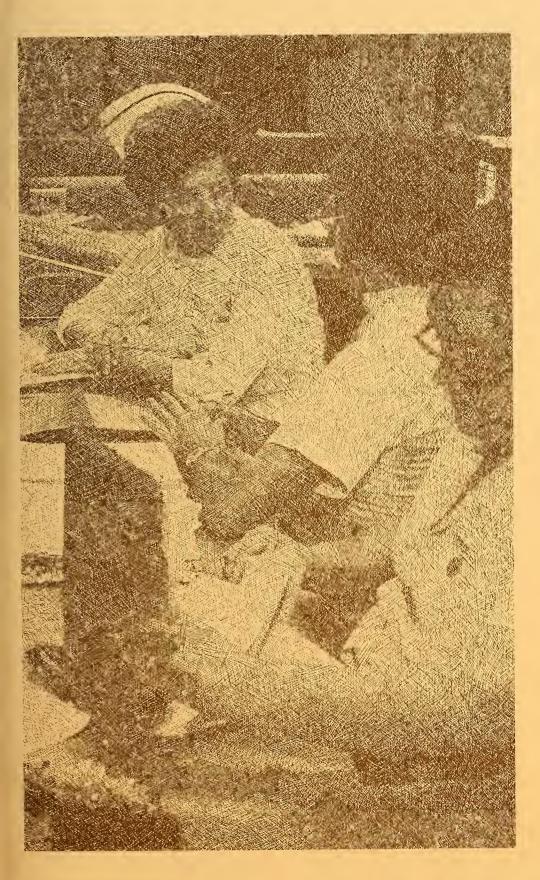
Bureau of Maternal and Child Health Service





EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1971 - JUNE 30, 1972

HEALTH PR	OGRAMS	STATE	FEDERAL	TOTAL
HEALTH REGULATIONS Division of Medical Care		\$ 1,509,595.22	\$ 936,710.87	\$ 2,446,306.09
ENVIRONMENTAL HEALTH				
Division of Environmental F		1,592,809.34	812,117.07	2,404,926.41
HEALTH SURVEILLANCE A	ND CONTROL			
Communicable Diseases	ND CONTINUE	1,903,556.55	110,811.79	2,014,368.34
Division of Food and Drugs		1,551,248.18	54,548.19	1,605,796.37
State Laboratory Institute		1,791,470.41	207,664.46	1,999,134.87
Tuberculosis Control		4,052,621.32	144,603.37	4,197,224.69
DIRECT MEDICAL SERVICE	:S			
Alcoholism		1,103,230.92	65.00	1,103,295.92
Division of Family Health S	ervices	2,168,866.61	4,430,286.91	6,599,153.52
Regional Offices		333,553.73	576,479.26	910,032.99
Hospitals		31,442,804.63		31,442,804.63
Lakeville	\$ 3,361,914.98			
Lemuel Shattuck	8,467,321.21			
Mass. Hospital School	2,721,477.09			
Pondville	3,083,656.38			
Rutland Heights	3,059,318.90			
Tewksbury	8,044,708.02			
Western Massachusetts	2,704,408.05			
COMMISSIONER'S OFFICE		824,787.17	1,130,121.50	1,954,908.67
FINAL TOTALS — DEPARTI	MENT AND HOSPITALS	\$48,274,544.08	\$8,403,408.42	\$56,677,952.50



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SINE ALTI Dept. of Public Health

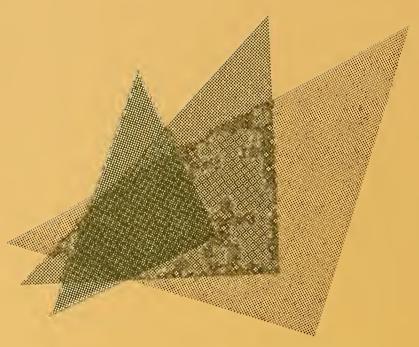
Changing Emphasis

Changing Emphasis

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Changing Emphasis

1972-1973



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH June 30, 1973

William J. Bicknell, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

Bernard B. Berger, M.S.	1966-1974			
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Joseph L. Dorsey, M.D.	1972-1978			
Evelyn Greenman	1972-1975			
Jacqueline Carroll	1972-1978			
Joen Greenwood	1973-			
Dorothy A. Zaccaria, Secretary				

Pearl K. Russo, *Editor* Chester R. Kennedy, *Art Director*

CHANGING EMPHASIS 1972-1973

The year that ended on June 30, 1973, was an unusually busy one for the Department of Public Health. The Human Services Reorganization Act (House Bill 6120) was still being discussed and debated by members of the Legislature at the end of the fiscal year. Public and legislative hearings, explanatory meetings with outside agencies, and discussion of proposals for reorganization of the Department had, however, put heavy demands on the time and energies of departmental personnel.

The proposals sought to strengthen the three major areas of responsibility of the Department of Public Health:

- * Health Protection, which encompasses:
 - Health Surveillance and Disease Control—to guard the health of the people of the Commonwealth and to control disease through testing, vaccination, treatment, analysis of disease trends and assessment of threats to the population.
 - Environmental Health to restore and preserve the integrity of the environment through controlling pollution of the air, water and land.
 - Food and Drugs to regulate the quality and safety of consumer products, food and drug processing.
- *Health Regulation to regulate the quality and safety of health care facilities through licensing, certification and inspection; through the administration of the Determination of Need Program; and through planning and the collection of statistical data.
- *Health Services to provide direct health services through the seven public health hospitals, through the Department's alcoholism program, and through services to children.









The red tide episode was undoubtedly the emergency highlight of the year. In September 1972, the Commonwealth experienced an outbreak of paralytic shellfish poisoning (PSP) caused by the consumption of shellfish harvested from Massachusetts waters, which had been infested with the marine dinoflagellate, *Gonyaulax tamarensis*. Although PSP had been recognized for over a century as a clinical entity, this outbreak was the first of its kind in Massachusetts history.

The Department acted immediately and decisively and declared the North Shore region from Gloucester to the New Hampshire line closed to the taking of shellfish. On the following day, Governor Francis W. Sargent declared a public health emergency, and the Department placed an embargo on the sale and marketing of fresh and frozen shellfish at the wholesale and retail levels. By September 17, the harvesting of all shellfish along the entire 2,000-mile Massachusetts coastline was banned; marketing, exporting and serving of shellfish were prohibited throughout the Commonwealth, and stocks were confiscated. Monitoring of the entire Massachusetts coastline revealed that 2,800 acres of shellfish harvesting areas were contaminated by *G. tamarensis*.

To deal with this emergency required the staff and technical resources of several Divisions within the Department. The Division of Food and Drug Laboratory performed bioassays on the shelf stock of markets, restaurants and wholesale dealers. The Division of Communicable Diseases began surveillance for cases of paralytic shellfish poisoning, and canvassed poison centers and accident floors of all hospitals in the northeastern portion of the state, as well as those in Metropolitan Boston. Eventually, 26 illnesses were reported and verified. Of these, two were severe and the patients required respiratory supportive treatment.

Bioassays on the shellfish samples were carried out by the staff of the Lawrence Experiment Station, who also monitored all shellfish growing areas in collaboration with the Lakeville Laboratory of the Division of Environmental Health and the Cat Cove Marine Research Laboratory of the Division of Marine Fisheries, Department of Natural Resources. The Division of Community Operations alerted all local boards of health to the potential poisoning of *G. tamarensis* and to its possible effects. A campaign of public education through the press, radio and television was coordinated by the Office of Health Education

Prompt and decisive action by the Department prevented the PPS episode from developing into a major outbreak. As a result of effective mass public education and a comprehensive embargo on potentially hazardous shellfish, no cases of PSP occurred after September 17, 1972. Despite the identification of shellfish with the extremely high toxicity of 5,000-10,000 micrograms/100 grams, there were no fatalities in Massachusetts. Ingestion of only three clams containing the above amount of toxin would have been sufficient to produce a lethal human dose. The mortality rate in outbreaks of PSP in other areas, including Canada, has usually been 20 percent.

Following the lifting of the general ban in October, the Commissioner of Public Health appointed a short-term task force to study the problem of paralytic shellfish poisoning and to submit a program for surveillance and control in Massachusetts. Chairman of the task force was Bernard B. Berger, M.S., Professor of Engineering and Director of the Water Research Center, University of Massachusetts (Amherst), and a member of the Public Health Council.







The signing into law of the Determination of Need Bill on July 18, 1972, gave the Department statutory responsibility to prevent unnecessary expansion of health care facilities. On June 29, 1973, the Department promulgated new rules and regulations for the program, including the participation of the Statewide and Regional Comprehensive Health Planning Agencies. With the passage of the Determination of Need Bill, the regulatory aspects of public health became more important in the work of the Department. The increase in the number of applications received under this program brought about a parallel growth from two to six in the staff of the Legal Office.

The voice of the consumer in the determination of health care programs was strengthened by the reconstitution of the Public Health Council under a section of the Determination of Need Law. In addition to the Commissioner of Public Health, the Council membership now includes three providers, two of whom must be physicians, and five nonproviders. A second physician was to be appointed later.

Two additional programs in the field of health planning came into being in early 1973. The Office of Emergency Medical Services, in the Office of Health Planning and Statistics, was given the initial responsibility for working with the Area Comprehensive Health Planning (b) Agencies to design regional emergency medical services systems, and to train and upgrade ambulance crews, firefighters and policemen to qualify as certified emergency medical technicians.

The second project was the formation of a Human Rights Committee in April 1973 to guarantee the confidentiality and privacy of individual health informa-

*In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

tion. The Committee is working on a set of guidelines to be used in the Office of Health Planning and Statistics; these may have possible future application to other state agencies.

Although the Department has, in the past, had student interns assigned to various Divisions for short periods of time, it embarked upon a special, one year Post-BA Internship Program for young women interested in public health. Eleven women were selected during the spring to begin work in the Department on July 1, 1973. They were to be assigned to different Divisions and programs in accordance with their interests and experience.

The Department continued to provide basic preventive and protective services to segments of society that do not usually fall within the purview of private medical resources. The Prison Health Project, working in collaboration with the Department of Public Health, became operative in the fall of 1972 to upgrade medical and dental care in the state correctional institutions, and to organize training and placement programs.

Looking to the years ahead, the Department has given serious consideration to what its role will be in relation to other agencies within the Commonwealth. Without formal legislative reorganization of its structure, the Department has, nevertheless, made some changes to reflect the accelerated growth of certain aspects of its operation.

This 59th Annual Report*is a brief accounting of the activities of the Department of Public Health at a time of changing emphasis. This aims to create a new balance among the three cornerstones of the Department — protection, regulation and service programs.



HEALTH SERVICES

One of the major functions of the Department of Public Health is the provision of direct health services that are not provided by the public sector. Primary services include: hospital care through the seven departmental hospitals, detoxification and rehabilitation of alcoholics through the Department's community-based alcoholism program, and services to children through the Preschool Nursery and Handicapped Children's Programs.

ALCOHOLISM PROGRAM

Passage by the Legislature of the Comprehensive Alcoholism Treatment and Rehabilitation Act in 1971 strengthened the powers of the Division of Alcoholism to establish a coordinated, comprehensive program of treatment, rehabilitation and prevention of alcoholism. The law abolished the crime of public intoxication (to become effective July 1, 1973), and provided for the establishment of detoxification and other facilities for the treatment of the alcoholic.

The state plan, prepared by the Department, called for the establishment of 500 detoxification beds, in units of about 20 beds per facility, throughout the Commonwealth. By the end of fiscal 1973, the Division had established 14 alcoholism intervention centers with 315 beds, capable of serving 38,000 of the estimated 60,000 public intoxicants.

The Division, with the assistance of the local administrative directors of the centers, conducted an intensive education and training program with the police in the areas covered by the detoxification units. By June 30, 1973, all police chiefs in the state were contacted and provided with written orientation material for distribution to all police officers.

The Division continued financial support of 23 half-way houses under partnership arrangements between nonprofit corporations and the Commonwealth. The state contributed approximately \$10,000 a year to each half-way house. Additional operating costs of about \$30,000-\$35,000 were recovered from the clients and local communities. The Division also maintained its support of 21 outpatient alcoholism clinics that serve an approximate patient load of 10,000.

A special project grant from the National Institute of Alcoholism and Alcohol Abuse made possible the establishment of a statewide alcoholism program related to employment. Occupational specialists of the Division were successful in setting up 14 occupational alcoholism projects: eight in state and local government, and six in private industry. As a result of the work of the occupational branch of the Division with the State Group Insurance Commission, the new health insurance contract for state employees, effective July 1, 1973, will provide coverage for alcoholism without any limitations or discrimination.

HOSPITALS

Through its seven hospitals, the Department provides a broad range of clinical services to meet the needs of patients with long-term but remedial disabilities. In the past year, the seven hospitals assumed a more direct role in making comprehensive health care available to the communities in which they are located.

The hospitals have worked more closely with regional planning groups to develop programs for needed services that are not provided by other hospitals, voluntary or private, nor by other health agencies. At the same time, the Department has been considering what its role should be in the provision of medical services through its seven institutions. New services and programs perhaps indicate the trend for the period ahead:

- Lakeville Hospital opened its summer day camp program to outpatients from the handicapped children's clinics. Nursing staff from the hospital provided coverage for services at the clinics.
- Lemuel Shattuck Hospital has begun to supply surgical services to the hospitals of the Department of Mental Health to replace services previously provided at the Boston State Hospital. During the year, 370 surgical patients from mental health hospitals received services. Tentative arrangements are underway to provide services to inmates of correction facilities.
- The Massachusetts Hospital School, the Department's hospital and residential facility for physically handicapped children, instituted several new programs. The success of the Myelodysplasia Service, a multidisciplinary clinic, led to the establishment of the Nursery for Multiply Handicapped Infants and Children, in conjunction with Family Health Services. The Baylies Beginning Center, an open classroom, preschool project, initiated a special morning program for children from the school and the surrounding area. Ten of the children were not handicapped. The program was successful in breaking down the barriers that usually exist between the handicapped and

- nonhandicapped. It will serve as the model for similar programs throughout the state.
- During fiscal 1973, the outstanding event was the completion of the new Pondville Hospital. Patients were transferred to the new structure on August 22, 1972. The capacity of the new hospital is 140, an increase of 30 beds. The expanded facilities will soon house a Betatron, a 45-million electron volt linear accelerator, the most powerful radiological weapon now in use in the treatment of cancer. The hospital will serve as the southeastern regional cancer center, and will provide a full range of surgical, chemotherapeutic and radiotherapeutic services.
- The Community Comprehensive Health Clinic at the Rutland Heights Hospital has grown greatly. Appointments now have to be made 14 months in advance. The clinic sees 10 to 12 new clients daily, six days a week.
- A major accomplishment of the Tewksbury Hospital was the successful transfer of 29 children to the new hospital unit, on May 1, 1973. The hospital is cooperating with the Neighborhood Youth Corps in their program for the employment of underprivileged children. Salaries for these young people are paid by the federal government.
- The Physical Medicine and Rehabilitation Service at the Western Massachusetts Hospital, which was reactivated in 1971, has had the most active growth of any clinical service at the hospital. In fiscal 1973, the number of inpatients increased by 70 percent, and the number of treatments by 150 percent. Related outpatient services quadrupled in the same period.

The seven hospitals, with an actual operating capacity of 2,075, admitted 7,766 patients during fiscal 1973. The hospitals have an average daily patient load of 2,000 and an average daily admission of 20 patients. The average length of stay varied from 20 days at Pondville Hospital to 219 at the Massachusetts Hospital School. The shift in emphasis from

Table 1
PUBLIC HEALTH HOSPITALS
YEARLY CENSUS SUMMARY — JULY 1, 1972 - JUNE 30, 1973

	Operating Capacity	Admissions	Discharges	Average Daily Census	Average Length Of Stay	Out- Patient Visits	Total Patient Days
Lakeville	150	498	490	133	101	1,643	49,142
Lemuel Shattuck	205	3,416	3,292	216	22	9,995	77,605
Mass. Hospital School	180	157	158	108	219	808	39,381
Pondville	104	1,189	968	73	20	18,326	26,812
Rutland Heights	180	937	935	133	68	5,232	48,553
Tewksbury	1,136	835	674	1.054	159	0	384,570
Western Mass.	120	734	635	72	36	16,270	26,453
Totals	2,075	7,766	7,150	_		52,274	652,516

custodial to ambulatory care is indicated by the increased number of outpatients — 52,274 (Table 1), an increase of nearly 10,000 over the previous year. The hospitals provide the following services:

Hospital	Services
Lakeville	Comprehensive rehabilita

Lakeville Comprehensive rehabilitation for children and adults, chronic renal dialysis, residential asthma center for children.

Lemuel Shattuck Medical and surgical care of chronic illness, emphasizing pulmonary disease care, renal dialysis, chronic alcoholism and vascular programs.

Massachusetts
Hospital School

Cal care of physically handicapped but mentally normal children.

Education and vocational training coupled with medical and surgical care of physically handicapped but mentally normal children.

Pondville Multimodality treatment of cancer in adults and children.

Rutland Heights Long-term hospitalization and rehabilitation of adults with chronic diseases and alcoholism.

Tewksbury

Medical and surgical care of chronically ill and severely handicapped adults and children, alcoholism program.

Western Long-term care of chronic ill-Massachusetts nesses in adults, rehabilitation program.

As an essential element of the total public health effort, the Department's hospitals were being used, to a greater extent than in the past, to develop and implement programs for the training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts Hospitals, through their accredited schools of practical nursing, graduated about 150 licensed practical

nurses, many of whom continued to work at the hospitals. The others contribute to the reservoir of personnel needed for the hospitals of the Commonwealth.

Lakeville Hospital provided educational services to Bridgewater College students in Special Education, to the Lynn Hospital School of Nursing, the Quincy Hospital School of Nursing and to St. Luke's Hospital in Middleborough.

The hospital facilities of Lemuel Shattuck are used by students of Tufts University School of Medicine throughout their four years of medical training. In addition, 18 residencies in Internal Medicine are offered and are accredited for three full years of training in conjunction with the Faulkner Hospital, an affiliated institution.

The Massachusetts Hospital School provided instruction for students majoring in Physical Therapy at Northeastern University. In addition, the School provided experience for teacher interns from Tufts University.

Pondville Hospital continued its affiliation with the Boston University School of Medicine, Department of Radiology at Boston City Hospital. Through this affiliation, Pondville receives on a rotational basis the continued services of two junior radiologists and two radiology residents.

Rutland Heights Hospital gave formal training courses in hospital administration, psychologic counseling, rehabilitation nursing, and physical therapy to students from neighboring colleges and universities.

In the spring of 1973, Tewksbury Hospital began a cooperative project with the Medex Physician's Assistants Program of Dartmouth College's School of Medicine. One student began his training program under the preceptorship of the hospital's medical director and two senior physicians.

The Rehabilitation Service of the Western Massachusetts Hospital is involved in the clinical training of students from the graduate program of Adaptive Physical Education at Springfield College, the Physical Therapy Section of Northeastern University, and the Physical Therapy Assistant Program of Springfield Technical Community College.



FAMILY HEALTH SERVICES

Improved health services to mothers and children in the Commonwealth remained an important aspect of the Department's total effort to upgrade community health. The Family Health Services staff carried out programs aimed to reduce infant and maternal mortality, promote maternal and child health, and to evaluate and treat handicapped children. Emphasis in the past year has been on the development of new services, and on the improvement and expansion of existing services to answer the needs of the individual and of the community.

Handicapped Children's Services

The identification of handicapped children at an early age so that they may have an opportunity to develop to their greatest potential remains a primary goal of the Department. In the past year, the number of profoundly multihandicapped children referred to Family Health Services for possible placement in a pediatric nursing home rose to 250. The Implementation and Referral Center for Services to Handicapped Children aided in this work. A complex and comprehensive program for the identification, referral and treatment of these children was being developed for implementation in the next fiscal year.

The three preschool centers for handicapped children — the Baylies Beginning Center at the Massachusetts Hospital School, the Anne Sullivan Day Care Center at the Tewksbury Hospital, and the Dimock Street Preschool in Roxbury — had an average enrollment of 30 children at each center. The three centers operate as open, integrated classrooms for both handicapped and nonhandicapped children. The concept has proved very successful in maximizing the developmental potential of each child.

The Department expanded its network of clinics for handicapped children to meet the demand for services in areas of the Commonwealth not previously reached. A pediatric evaluation and neurology clinic was established at the Southeastern Regional Office, located at the Lakeville Hospital. The program has been successfully integrated into the activities of the hospital.

Outpatient neurology clinics operated jointly by the Epilespsy Control Program and the Handicapped Children's Program increased during the year. More clinic sessions have been scheduled each month to meet the expanded caseload. The Epilepsy Control Program established closer ties with the Massachusetts Rehabilitation Commission, the Executive Office of Human Services, and the Developmental Disabilities Council in order to identify more effectively those Massachusetts residents with epilepsy who need financial aid to purchase medication.



Child Growth and Development

The Children's Developmental Clinic is concerned with the interaction of the child's social, intellectual and emotional development with his physical development. Children with developmental delays were evaluated at the clinic by multidisciplinary teams for optimal medical management. In the past year, the clinic evaluated 350 new patients and continued to give care to 400 patients previously seen. A close working relationship with the Somerville School Department and various neighborhood health centers helps to coordinate health care delivery and to make appropriate referrals.

Family Planning

During 1973, the Family Planning Program made a great effort on behalf of mentally retarded persons, whether in institutions or in the community. Working with the State Schools for the Retarded in an outreach capacity for the Department of Mental Health, Family Planning staff provided inservice training for staff, counseling for patients and parents, education on hygiene, health sexuality and contraceptive use.

Other Family Health Services projects included: aid to the hard of hearing, rheumatic fever prevention, the premature birth program for unwed mothers, and funding for PAGE, a program of continuing education, sex counseling, and health hygiene for unwed junior high and high school mothers.

Community Health

The scope of activities provided by the Department is reflected in the local health services provided by four regional offices in the state. These offices coordinate the Department's general field activities, and act as intermediaries between the central service programs and the local health agencies. They help the local health agencies either by consultation or by direct assistance in the local programs. These include school and personal health services, the application of the State Sanitary Code, day care licensure, and home health agency certification.

Only a few activities of each regional office in the past year can be noted:

- Central Region Staff members organized and participated in education programs designed to fit the needs of many segments of the community. The nursing staff organized a program for 67 nurses on the handling of children with special needs. Another meeting brought together 200 people to discuss the regional infant cardiac program.
- Northeastern Region The specialist in early childhood education provided consultation to groups in 21 communities on licensing, program development, staffingroom arrangements, physical plants, equipment, and on the needs of special children. The educator was assigned to the Topsfield office, Region IV of the Office of Children, two and one-half days a week, to act as liaison and to expedite referrals.
- Southeastern Region Under an agreement with the Department of Correction, regional office staff have been working closely with the Prison Health Project to improve the standards of health care and to upgrade environmental conditions in the state's correctional institutions. Semi-annual inspections are made at each of the six state correctional institutions. Staff make annual visits to the six county houses of corrections, and periodic visits to the 73 local lock-ups and facilities of the Department of Youth Services.
- Western Region The regional nursing advisor is serving with board representatives from Berkshire, Franklin, Hampden and Hampshire Counties who planned and implemented a coordinated family planning program for Western Massachusetts. The PAGE (Pregnant Adolescent Girls Education and Health) program continued in Greater Springfield with the consultation and assistance of the Franklin-Hampden nursing advisor.

STAFF SERVICES

HEALTH EDUCATION

The Office of Health Education continued to provide many services in the areas of health information and education to the Department and its program units. Release of information to the newspapers, radio and TV stations, a routine activity of the Office, greatly increased during the red tide episode. The Spring 1973 issue of COMMONHEALTH, the quarterly publication of the Department, was devoted entirely to the paralytic shellfish poisoning incident. Approximately 6,500 copies were printed to meet the nationwide request for the issue.

The production of materials, visual aids and exhibits increased in fiscal 1973, when 3,704,296 impressions were printed. These represented over 600 printing orders.

The recataloguing of the library acquisitions according to the system of the National Medical Library was completed during the year. The appointment of a library committee to review library policy will also strengthen services and utilization.

Health educators assigned to two regional offices planned educational programs with local boards of health, regional planning agencies, community groups and school personnel. Staff from the regional and central offices also participated in training programs and seminars at universities and other educational institutions.

MANPOWER DEVELOPMENT AND TRAINING

The Office of Manpower Development and Training increased its responsibilities in the past year. It added new programs to its regular tasks of setting up training programs within the Department, and of approving employees for attendance at special courses conducted by outside organizations. The Office developed an Affirmative Action Plan for the Department to guarantee equal employment opportunities to all individuals regardless of race, sex, age, religion or national origin. Office staff worked vigorously to increase the number of women and members of minority groups within the Department.

The Office coordinated the first audit of the Department's compliance with Title VI of the Civil Rights Act. The audit was conducted by the Office of Civil Rights, United States Department of Health, Education and Welfare.



HEALTH PROTECTION

HEALTH SURVEILLANCE AND DISEASE CONTROL

Within the area of health surveillance and disease control are the classic core activities that are and must remain the direct responsibility of the state. These activities are primarily carried out in three related sections of the Department: Communicable Diseases, Tuberculosis Control and the State Laboratory Institute.

COMMUNICABLE DISEASE CONTROL

The year that ended on June 30, 1973 was an unusually busy one for the Division of Communicable Diseases — and in areas that had not been of active concern for many years in Massachusetts.

In August 1972, the Division investigated two outbreaks of gastroenteritis associated with cooked lobster meat. Cultures sent to the Center for Disease Control yielded two cultures of *Vibrio parahaemolyticus*, 01:k38, Kanawaga positive. *V. parahaemolyticus* is a gram negative marine organism that occurs naturally in salt waters and is found in many species of fish, shellfish and crustaceans. The organism dies rapidly in the refrigerator or freezer and in temperatures above 55° or 60°C.

Investigation showed that the lobster meat had been recontaminated during the shucking process. An educational program directed to the employees of each of the lobster firms bore results. No further cases of *V. parahaemolyticus* food poisoning were reported.

States bordering Massachusetts have reported cases of rabies in dogs, cats, farm animals, foxes and skunks. On March 1, 1973, a rabid racoon was detected in Freetown in Bristol County, the first reported case of rabies in a ground animal in Massachusetts since 1949. A case investigation revealed that the animal was rabid when brought into the state from New Hampshire. The Division quickly organized a dog immunization clinic for the Greater Fall River Area and continued its educational program aimed at school-age children.

The Division arranged for immunization of all Christian Science students in both public and private schools in Lexington. This measure was taken after a student who was attending a Christian Science school in Greenwich, Connecticut, developed Type I paralytic poliomyelitis, and was hospitalized at the Mt. Auburn Hospital in Cambridge.

During the outbreak of paralytic shellfish poisoning in September 1972, the staff of the Division carried out surveillance for cases of PSP.

The impressive progress initially recorded through the statewide measles immunization program from 1965 through calendar year 1971 — a drop from 19,512 cases to 276, a 98.1 percent reduction — came to an abrupt halt in 1972. In that year, 1,173 cases were reported, a fourfold increase. Immunization surveys revealed many outbreaks of measles in areas with pockets of low immunization. Of the reported cases, 75 percent occurred in children who should have been immunized in the school health programs.

During the first six months of 1973, 3,822 cases of measles were reported. Most reported measles in high school students was properly rubella (German measles). Teams of two men with jet injector guns were sent into cities and towns with a low ratio of measles immunization or to areas where outbreaks were in progress. Each gun can deliver 500 doses per hour.

The statewide immunization programs continued to record impressive progress in controlling mumps and rubella:

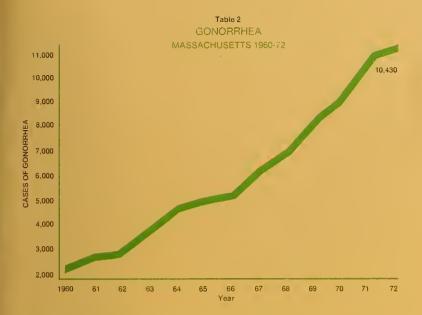
- Mumps down from 9,024 cases in 1965 to 829 in 1972, a drop of 91 percent.
- Rubella down from 9,024 in 1969 to 526 in 1972, a drop of 64.1 percent.

During the first six months of 1973, 54,660 doses of the biviral vaccine for measles and rubella were administered. In the calendar year 1972, the following dosages of vaccine were administered:

*	Measles	 183,321
*	Mumps	 176,348
*	Polio	 804,400
	Rubella	
	Measles/Rubella	

As part of its program to control and eventually eliminate those communicable diseases for which immunizing agents are available, the Division conducted mass preventive programs in 19 communities throughout the state and administered 51,038 immunizations against measles, rubella and polio.

The prevalence of other preventable infectious diseases remains low. Only 22 cases of whooping cough were reported in 1972, and one case of tetanus. There were no reported cases of smallpox or of diphtheria.



VENEREAL DISEASE PROGRAM

The increase in venereal disease throughout the world and nation is replicated in Massachusetts. The 10,430 cases of gonorrhea reported in the calendar year 1972 constitute almost a threefold increase over the 3,725 reported cases in 1963. The estimated number of venereal infections was 83,000. This figure is based on a survey indicating that only 12 percent of treated cases of gonorrhea are reported. The curve of the graph for reported gonorrhea in the Commonwealth indicates clearly that it is still an uncontrolled venereal disease (Table 2).

Unfortunately, about 75 percent of infected females have no symptoms of the disease and are, therefore, carriers. A definitive diagnosis in women requires a culture, but cultures have a sensitivity of only about 70 percent. Effective control will begin when a blood test for gonorrhea becomes available. Division staff have been cooperating with other health workers to develop a screening blood test for gonorrhea that can be used by private physicians in their offices.

Primary and secondary syphilis, for the third consecutive year, showed an increase: 320 cases in 1971 up to 519 in 1972. Early latent syphilis increased by 56 percent. Based on the above survey, the estimated number of infections of syphilis in 1972 was 4,000.

In its attack upon venereal diseases, the Department carries on a three-pronged program of education, treatment and control. The 20 cooperating state venereal disease clinics in the outpatient departments of general hospitals examined 23,621 patients, who made a total of 56,982 visits. The Department

anticipates a major step by these clinics into family planning. All venereal disease clinic patients will receive family planning counseling and contraceptive information. Departmental support of VD diagnostic and treatments services in family planning clinics is scheduled to increase in the coming months.

The Division received a federal grant of \$325,107 for the screening of females for gonorrhea. Laboratory support was received from the State Diagnostic Laboratories, 24 hospital laboratories and five private laboratories to provide coverage for the entire state. During fiscal 1973, the program examined 60,367 women by culture, of whom 2,381 had positive cultures. The grant will continue into the next fiscal year, when the Division plans to screen about 100,000 women.

An important adjunct to the work of the Division was the installation of two data telephones where individuals may call 24-hours a day, seven days a week, for basic information on venereal diseases and where they may go for examination and treatment.

In addition to its activities in prevention and control, the Division was engaged in several applied research studies, including:

- Evaluation of the efficacy of Trobicin in the treatment of gonorrhea. An FDA-approved drug, Trobicin is used only in the treatment of gonorrhea in penicillin-sensitive patients.
- A double blind study to determine the effectiveness of Isoprinosine, a drug not yet licensed by the FDA, in the treatment of primary herpes progenitalis.

TUBERCULOSIS CONTROL PROGRAM

Tuberculosis in Massachusetts is still a significant health problem. In calendar year 1972, the number of newly diagnosed cases reported was 734, a decline of 3.8 percent from the cases notified in the previous year. The failure of the new tuberculosis case rate to decline rapidly is attributable to: 1) an influx of high risk population into the state; 2) high unemployment rates and continuing decline in the standards of inner city housing; 3) the ever-present problem of alcoholism and other forms of self-abuse.

Fiscal 1973 saw the Tuberculosis Control Program moving within existing legislation to change certain aspects of patient delivery, and to facilitate funding, surveillance and cost-effectiveness control of the statewide tuberculosis services. To facilitate cooperative arrangements between the Department, local authorities, private agencies and private medical practitioners, the Tuberculosis Control Program negotiated with the Rate Setting Commission to produce an official statewide rate for TB ambulatory services, effective on July 1, 1973.

During the year, the Department gradually withdrew from a direct provider role to one of quality control, standard setting and community surveillance with technical support for the private medical sector, which is now a major source of direct clinical care for tuberculosis. In fiscal 1973, the majority of the tuberculosis ambulatory services were concentrated in community hospitals. Regional programs became fully operative in Lawrence, Lowell, Cambridge and Worcester. New operations were contracted to begin in the fall of 1973 in Brockton, Holyoke, Northampton, Greenfield, Framingham and the Greater Springfield rural areas.

As the regional community hospital programs took over responsibility not only for ambulatory but also for inpatient care, the relative importance of the remaining sanatoria in the state continued to decline. Five previously established regional TB programs continued to function efficiently. Proposals for 1973-1974 include the setting up of inpatient care services in the Lawrence General Hospital, the Lowell General Hospital, St. Luke's Hospital, New Bedford; Massachusetts General Hospital, the New England Deaconess Hospital and the Cambridge Hospital.

Tuberculosis laboratory services were also concentrated centrally to accommodate to the increasing complexity of mycobacterial identification and of drug sensitivity testing. The Mattapan laboratory became a statewide resource and processed 24,524 of the 34,417 samples submitted within the statewide laboratory complex.

An important aspect of the Tuberculosis Control Program is surveillance of cases and contacts. During fiscal 1973, the Program was successful in completing the implementation of the computerized TRS Surveillance System to cover all TB cases, contacts and patients on chemoprophylaxis in the City of Boston. At the same time, the records system was reorganized to eliminate those patients no longer requiring ongoing care. As a result, the Department now has a regular computer print-out of the progress of 3,500 patients who remain under care and supervision in Boston. Plans were also completed for the establishment of a simpler surveillance system for patients from the rest of the state, to be in operation by the spring of 1974.

The Tuberculosis Control Program continued its efforts to eliminate chest X-ray screening as a first-line procedure throughout the Commonwealth. In all the new regional and area tuberculosis ambulatory care programs, the primary screening procedure is now the tuberculin test. Statewide screening programs of children previously carried out in schools and in the offices of pediatricians were modified. A list of communities at high risk was published, and school testing programs were continued in these communities.

The Program continued to gain entry to institutions from which it had been previously excluded. Most of the hospitals for the mentally ill and for the retarded have adopted the Department's standards for tuberculosis screening and treatment. In addition to its work with the county prisons, the Program is working with the Prison Health Project in state correctional institutions rather than with the individual prison superintendents.

The Tuberculosis Control Program continues to be the largest single clinical program of the Department, with a yearly budget of over \$4 million. The following figures on the number of TB patients who received active care or regular follow-up indicate the scope of the TB program:

- Total patient visits to tuberculosis clinics in 1972 — 118,943
- Total patients hospitalized for TB in 1972 under the state program — 872
- Number of TB patients under care at home
 3,935.



FLOURIDATION PROGRAM

The Fluoridation Project continued its program of education throughout the state. It sent copies of the revised Fluoridation Handbook for Massachusetts Communities to the 287 Boards of Health on public water supplies, and to other agencies who had requested the handbook. Exhibits, pamphlets and other written material helped to bring the message of fluoridation to communities that faced referenda during the year.

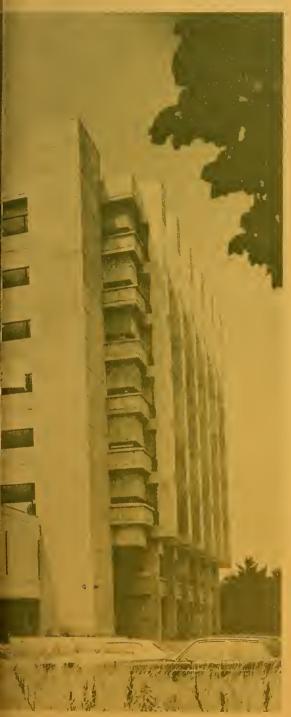
During fiscal 1973, Attleboro began fluoridating its water supplies, the 50th community to do so. Cambridge, Fitchburg, North Andover, Walpole and Westboro will soon fluoridate. At the present time, 18 percent of the state's population on public water supplies receive fluoridated water; this places Massachusetts 46th in the United States.

The Project has concentrated on obtaining fluoridation of the Metropolitan District Commission's water supply. When this takes place — target date is 1976 — more than 50 percent of the state's population will receive fluoridated water. The Fluoridation Project will then be able to concentrate its efforts on all the communities in the Commonwealth in order to bring Massachusetts well above the national average. No communities in the state have a natural adequate fluoride content.









Through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, the State Laboratory Institute continued to provide many services to the Commonwealth at a cost of less than 40¢ per capita:

- Production and distribution of serums and vaccines (approximately 4 million doses) for use throughout the Commonwealth
- Performance of a variety of tests on approximately three-quarters of a million specimens for clinical diagnostic purposes (inborn errors of metabolism, streptococcal infection and venereal diseases)
- Diagnosis of rare or exotic diseases
- Laboratory back-up services for quality control
- Research

Biologic Laboratories

The Division of Biologic Laboratories provided assistance in about 20 unusually severe, rare or difficult clinical situations, such as, suspected tetanus, diphtheria and smallpox, and in cases of fulminant hepatitis.

Some significant developments during the year included:

- Dysentery toxoid vaccine Toxin associated with Shigella dysenteriae type 1 has been purified and converted to a toxoid for tests as a vaccine.
- Serum albumin The Laboratories extracted maximum amounts from over 10,000 liters of outdated blood.
- Hyperimmune anti-hepatitis B globulin A globulin was prepared from especially screened plasmas rich in antibody. The globulin is being field tested in medical workers accidentally exposed to blood contaminated needles, and in renal dialysis patients and staff.
- Rh immune globulin Production climbed to 7,000 doses, almost enough to treat all mothers in Massachusetts who might be at risk of giving Rh disease to their newborns.

Table 3 FIVE YEAR SUMMARY OF NUMBER AND KINDS OF SPECIMENS EXAMINED BY THE DIAGNOSTIC LABORATORIES

Bacteriology	1969	1970	<u>1971</u>	1972	1973
Agglutinations	2,566	2,535	2,420	2,247	546
Enteric Pathogens	12,512	13,830	13,019	13,126	12,368
Gonorrhea	5,614	6,461	13,463**	17,373**	19,240*
Malaria	3		_	_	-
Mycology	154	195	147	183	190
Throat Cultures	114,845	143,157	166,586	168,075	110,548
Tuberculosis	4,115	4,687	5,152	2,345	_
Vincent's Gingivitis	16	10	18	34	3
Food	53	68	45	20	141
Miscellaneous	370	1,270*	460	817	1,120
Totals	140,248	172,213	201,310	204,220	144,156
Wassermann					
Syphilis Serology	455,190	415,162	376,559	370,019	276,359
Rabies	616	632	691	696	632
Totals	455,806	415,794	377,250	370,715	276,991
Virus					
Virus Isolations	528	280	331	779	1,121
Virus Serology	2,423	6,172	5,416	2,581	3,175
Encephalitis Program	3,633	3,687	4,260	1,567	3,431
Rubella Program	1,166	4,791	4,832	7,700	3,483
Totals	7,750	14,930	14,839	12,627	11,210
Metabolic Disorders					
PKU Screening	152,563	203,540	229,945	203,939	196,139
Special Studies	_	131,583	3,588	3,756	3,287
Totals		335,123	233,533	207,695	199,426
Grand Totals	756,367	938,060	826,932	795,257	631,783

^{*} Includes 900 gonococcus cultures.
** Includes cultures and smears.

Table 4 Diagnostic Laboratories Metabolic Disorders Laboratory

July 1972 - June 1973

A. Routine Specimens	Total
Cord Blood	62,328
Newborn Blood	75,799
Urine	57,779
Follow-up Blood	233
	196,139
B. Other Specimens	3,287
Total Number of Specimens	199,426
Total Number of Tests	1,083,990

Diagnostic Laboratories

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assists local laboratories throughout the state to achieve a high degree of excellence in the performance of clinical laboratory tests. During 1972-1973, the Program evaluated 283 laboratories — 16 more than in the previous year — for the performance of one or more specified test categories. The Laboratory Improvement Program sent out 24,802 proficiency test specimens, an increase of more than 1,600 over last year.

The Program remains responsible for proficiency testing of hospital blood banks, of laboratories performing marital and prenatal blood tests for syphilis, and of laboratories in the Medicare program.

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism, the largest neonatal screening program for metabolic disorders in the world. The total number of tests performed was over one million, the largest number in any one year of the program (Table 4).

Several important studies were fully completed or nearly completed, including an analysis of the clinical and biochemical characteristics of children who are offsprings of mothers with phenylketonuria (PKU).

Virus Laboratory

The Virus Laboratory has been hard pressed to provide for the increasing demands for professional consultation and the specialized type of laboratory services that are unavailable elsewhere in the Commonwealth. In three of the four sections of the Laboratory — virus isolation, virus serology and arbovirus program — there was an increase in the number of specimens submitted from approximately 25 to 50 percent over the previous year.

The Isolation Section was the first in New England to isolate the new epidemic A-England strain of influenza from students at Stonehill College in South Easton.

The 1972 arbovirus program made the first confirmed isolation of the eastern equine encephalitis virus from a specimen originating in the western part of Massachusetts.

To improve viral disease surveillance and intercommunication with hospitals, physicians and other health workers, the Virus Laboratory instituted a regular monthly report summarizing type of specimen, laboratory findings and some brief clinical background.

The new State Laboratory building, which was begun in 1969, will be ready for occupancy early in 1974. The consolidation and centralization of public health laboratories will make possible important program expansion.

Table 5
TYPICAL
ANNUAL AVERAGES
FOR
PARTICULATE MATTER

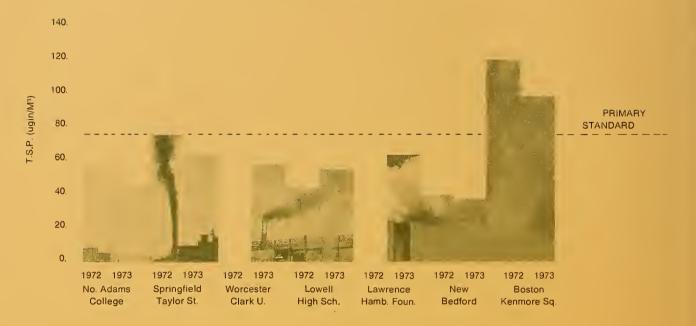
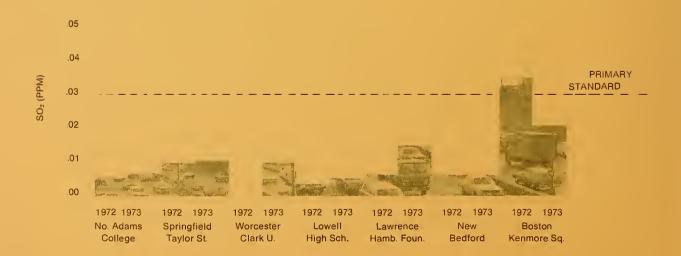


Table 6
TYPICAL
ANNUAL AVERAGES
FOR
SULFUR DIOXIDE



ENVIRONMENTAL HEALTH

The responsibilities of the Division of Environmental Health increased greatly in the past year as public concern for improving and maintaining the quality of the environment intensified. Enforcement of state and federal regulations, especially those relating to air pollution and solid waste management, required the activity of an enlarged staff of inspectors and engineers.

A new aspect of the Division's work has been its concern with the economic impact of air pollution control regulations. Responding to this concern, the Department ordered three studies to determine the cost of complying with the regulations.

Walden Research Corporation, Cambridge, made a study of the cost of compliance on the basis of 1970 emission inventory data and the cost of control equipment now available. The study estimated the economic impact in Massachusetts as \$103,377,000 per year. The largest sum — \$67 million annually — resulted from the regulation limiting the sulfur content in fuel oil. Some of this loss was reduced by granting variances in special cases of undue hardship, or for the public good.

The Harvard School of Public Health studied the cost effectiveness of the air pollution control regulations on stationary sources. Using computer analyses to estimate pollutant concentrations throughout the state, researchers indicated that secondary standards for sulfur dioxide and particulate matter will be met by 1975.

Public Interest Economics Center, a nonprofit Washington-based economic analysis group, made an indepth study of one pivotal variance request from a paper mill in the Metropolitan Boston Area. From

this study, PIEC developed general criteria for the Department to use in defining "undue hardship" and "the public good" for purposes of variance.

Air Quality Control

The Bureau of Air Quality Control, working under the Massachusetts Implementation Plan to the National Clean Air Act of 1970, was able to take enforcement actions that resulted in significant reduction in ambient levels of particulate matter and sulfur dioxide (Tables 5 and 6).

Approximately \$700,000 in federal funds assisted the program in expanding the Massachusetts Air Sampling Network to 49 stations across the state. These included seven highly sophisticated, continuous automatic monitoring trailers that transmit data to a central computer in Boston. Part of the federal funds enabled the program to streamline review procedures, source registration, emission inventories, mathematical modeling, and air quality measurements.

The Bureau processed applications and held hearings on many requests for variances to the regulations. The Public Health Council granted 17 variances during the year with estimated savings exceeding \$5 million. Ambient air quality standards, however, were not violated.

The importance of an informed public to the success of the air quality control program was underscored by the 6,000 citizen complaints to the regional offices. After investigation by the regional staff, enforcement measures brought 90 percent compliance with the regulations. Further steps were taken to achieve compliance by the other 10 percent.

Water Supply and Water Quality

The Bureau of Water Supply and Water Quality, which is responsible for the environmental engineering aspects and surveillance of approximately 350 municipal water supply systems, approved 22 new sources of water supply, as well as plans for water treatment, storage and additions in 31 more communities. During the year, 22,587 drinking water samples were tested throughout the state. The Bureau granted four requests to establish small private water companies to serve condominiums or housing developments.

As a result of the findings of a committee established by the Legislature in 1971 to study the danger to ground water supplies and to the environment by the use of chlorides or other chemicals to remove ice from public highways, a bill was introduced into the Legislature to regulate the storage and use of snow removal chemicals. If the bill were to be enacted into law, it would assign to the Bureau substantial duties in this aspect of environmental control.

The Board of Certification of Operators of Drinking Water Supply Facilities, established under Chapter 942 of the Acts of 1971, adopted rules and regulations governing its work, and processed over 300 applications for certification. Over 1,100 applications were received for certification under a "grandfather clause" for which the time limit has now expired. Each water supply agency is required to have a certified operator.

The Bureau continued to survey and classify over 40,000 acres of shellfish-growing areas along the 2,000 miles of Massachusetts coastline, and posted all shellfish areas that were closed to shellfish harvesting because of pollution.

The activities of the Bureau in this work were stepped up as a result of the outbreak of paralytic shellfish poisoning (PSP) in September 1972. The special Berger Committee investigated the outbreak and made specific recommendations. Consequently, each week the Department now examines shellfish gathered from 30 stations located along the coast-line. This new shellfish activity, which is costly in terms of manpower, has resulted in increased expenditures.

Community Sanitation

The Bureau of Community Sanitation continued its efforts to eliminate all public health problems and nuisances created by the operation of insanitary solid waste practices and facilities. In fiscal 1971, the Public Health Council adopted Regulations for the Disposal of Solid Wastes by Sanitary Landfill. The Bureau has utilized to the fullest its resources to enforce these regulations, and is now working on new regulations for transfer stations and recycling facilities.

During fiscal 1973, the Bureau handled over 500 projects on solid waste management. These required visits or inspections, letters of citation, holding of hearings, issuance of orders, referrals to the Attorney General's office and plan approvals. Public hearings were held on nine sanitary landfill sites.

The Bureau worked in cooperation with the Bureau of Solid Waste Disposal of the Department of Public Works, with the Department of Natural Resources, and other state and local regulatory, operational and planning agencies to coordinate the entire program of solid waste management in the Commonwealth. The Bureau also assisted the Solid Waste Council, made up of the Secretaries of Environmental Affairs, Human Services and Transportation, in developing a statewide plan for solid waste disposal.

The Bureau continued to regulate the disposal of liquid waste discharges into the ground. It reviewed and approved four reports and 41 sets of plans for municipal sewage treatment plants, as well as plans for 600 sewage disposal systems with a capacity of more than 2,000 gallons a day.

The inspection of all farm labor camps and their certification prior to their use by migrant farm workers is a permanent activity of the Bureau. The number of farm labor camps in Massachusetts has decreased, but recreational camps for children, family camping grounds and motels increased. These facilities are subject to licensing, inspection and regulation by local boards of health. The Division of Environmental Health, however, is responsible for review of plans for the disposal of sewage and for surveillance.

Environmental Health Laboratories

The Lawrence Experiment Station and three regional laboratories — at Amherst, Lakeville and Tewksbury — provide the laboratory services for the Division of Environmental Health.

The paralytic shellfish poisoning episode (PSP) placed great demands on the personnel, facilities and budget of the Experiment Station, which was the focal laboratory for the measurement of toxin in shellfish. The Station actively participated in: 1) identifying the areas initially infected by the toxic marine algae, *Gonyaulax tamarensis*; 2) determining when the infested areas could be open for shellfishing; and 3) establishing a network of 30 key stations for the early detection of future toxic blooms in Massachusetts shellfish waters.

Researchers made significant progress in the development of a new procedure for the measurement of fecal coliform concentrates in estuarine waters, and in applying fluorescent spectrophotometric principles for the measurement of trace microorganic constituents in drinking water.

In the past year, the environmental health laboratories performed tests on the following samples:

Bacteriological (Coliform Analysis) 28,807 Chemical (Water Supply) 9,580 Chemical (Water Pollution) 2,291 Radiological 3,169 Air Analysis 8,440 Paralytic Shellfish Poison Bioassays 1,402 Toxic Metals 600
Toxic Metals
Special Chemical (Pesticides, Oil) 250
Total 55,072

This represents a four percent increase in the number of samples examined over the previous year. The true increase in the workload was greater since the number and complexity of analyses performed on each sample had multiplied.

The Lawrence Experiment Station is now developing a program to computerize all the chemical data obtained by the Station on the water supplies of Massachusetts.

Environmental Radiation Control

The steady increase in the number of environmental problems created by sources of man-made radiation and emission from electronic products has added to the activities of the Bureau of Environmental Radiation. During fiscal 1973, the Bureau continued its routine monitoring programs of wastewater from nuclear facilities, and of the waters that receive the waste. The levels of radioactivity monitored were not of health significance. The levels in drinking water supplies varied seasonally through natural causes.

The predicted growth of nuclear-power generating stations in Massachusetts and on the borders of the state resulted in the development of specific emergency response plans for each nuclear facility. During the year, two full drills were held under the Pilgrim Nuclear Power Station Emergency Response Plan.

The Bureau continued surveillance of the environs of nuclear power plants, and maintained cooperative programs with New Hampshire and Vermont.

Pesticide Board

The Massachusetts Pesticide Board, under the jurisdiction of the Department of Public Health, is an inter-Departmental agency with representation from the Departments of Public Health, Natural Resources, Agriculture, Public Works, the State Reclamation Board and the Division of Fisheries. There are five public members.

Regulations under amended state laws now include control of transportation, storage, sale and use of pesticides. The Commissioner of Public Health now has the power to direct local Boards of Health to carry out certain activities in emergency situations.

Massachusetts meets most of the new standards under the 1972 Federal Environmental Pesticide Control Act. Exceptions are standards relating to classification of pesticides for general and restricted use, and to the licensing of those individuals who use restricted pesticides.



FOOD AND DRUGS

Increasingly aware of the hazards to health that abound in the surroundings, whether it be flammable clothing, carelessly packaged foods or improperly marked drugs, the consumer demands more and stricter controls from the State Department of Public Health.

The Division of Food and Drugs has the responsibility for protecting the consuming public from the detrimental effects of chemicals, adulterated foods, unsanitary bedding and upholstery. The Division is also responsible for the licensing of vending machines, cold storage warehouses, and the manufacture of upholstered furniture and stuffed toys; narcotic drugs and of establishments that use animals for experimental purposes; and of slaughterhouses and meat and poultry establishments. The Division also makes analyses of all foods, drugs, liquors and poisonous substances.

The inspection of foods covers the whole distribution chain from the source of food to the ultimate purchase by the individual consumer. Included in this cycle are more than 1,800 food manufacturers and processors, approximately 1,350 food trucks, 1,225 wholesale distribution points, and 40,000 retail food outlets. Each activity represents a possible point of food contamination and requires individual surveillance by experienced inspectors.

During the past year, Food and Drug inspectors supervised 113 meat and poultry wholesalers and processors. The laboratories of the Division analyzed 53,962 food and drug samples.

The Division wrote the Massachusetts Uniform Packaging and Labeling Regulations, which were adopted by the Public Health Council on May 22, 1973. These are among the most comprehensive food labeling regulations adopted by any state in the nation. In addition to total ingredient labeling and

nutritional labeling, the regulations also require open dating to guarantee the freshness of packaged and canned foods. The regulations are presently subject to court action and will have to be reconsidered by the Public Health Council.

As a consequence of the paralytic shellfish poisoning emergency, the Division of Food and Drugs began a comprehensive survey of shellfish in Massachusetts. The Division concluded that the shellfish tagging-source identification program required better methods properly to identify and maintain identification of both shucked clams and shellstock.

The Division did a survey of the brands of evaporated milk on sale in Massachusetts and found levels of lead ranging from 0.15 to 1.30 parts per million. Samples of raw milk tested showed no lead. Investigations by the federal Food and Drug Administration at the source found that equipment used in processing evaporated milk and solder used to solder the cans were responsible for the lead contamination. The FDA established a federal guideline for lead levels in evaporated milk of not more than 0.5 parts per million. The Division has been collecting additional data with the aim of establishing a tolerance of not more than 0.2 parts per million.

The growth in the use of illicit drugs in the Commonwealth has put an additional burden on the Division, which analyzes drugs, as well as liquors and poisonous substances, for the Department of Natural Resources, and local and state law enforcement agencies. During the past fiscal year, the Drug Analysis Section analyzed 38,962 samples for local police departments in the Greater Boston Area, a decrease of more than 5,000 over the previous year. Among those drugs analyzed, however, were several very large samples, including trunkloads of marijuana that weighed up to 200 pounds.









HEALTH REGULATION

Through its programs of standard setting, inspection, licensure and review, the Department works to assure the people of Massachusetts safe health care. To the existing regulatory procedures, the Legislature added the provisions of the Determination of Need Act. This Act gives the Department responsibility for preventing unnecessary expansion of health care facilities.

At the end of fiscal 1973, the Department reorganized the Division of Medical Care into three units to correspond to the separate but interrelated activities previously carried out by five Bureaus within the Division.

HEALTH CARE STANDARDS

This program unit, one of the regulatory arms of the Department, is assuming a growing role in quality control and utilization review. It is responsible for setting the criteria in a health care system that includes more than 2,000 health facilities — hospitals, nursing homes and clinics. It is also responsible for the inspection of all diagnostic and therapeutic X-ray units in hospitals, private offices and departments of nuclear medicine.

The certification responsibilities of the unit extends into both the Medicare and Medicaid programs. Closer liaison was established with the Department of Public Welfare to assure a cooperative and coordinated effort to meet Medicaid requirements. The specialized Utilization Review Unit surveyed approximately 180 hospitals and 90 extended care facilities for the Medicare program, and 135 facilities for the Medicaid program. Upon recommendation of staff, the Public Health Council renewed the licenses for: 57 hospitals, 30 clinics, 133 nursing homes, 28 charitable homes for the aged, and 1 city or town infirmary. Under the Medicare program, 247 facilities, agencies and other providers were recommended for certification.

Aimed at upgrading standards, new Intensive Care Unit Regulations and new Nursing Services Regulations became effective in October 1972. In February 1973, the Public Health Council adopted Ambulatory Gynecological Surgery Regulations and held a public hearing in May 1973. These regulations will, at a later date, be incorporated into the final draft of regulations for clinics.

The Department began work on a new hospital classification system designed to decrease the number of classifications now in use. Ultimately, the system will be incorporated into the hospital licensure regulations. In the early part of 1973, the Department also began a program to implement the important Periodic Medical Review Program in skilled nursing homes and mental hospitals. This review is required under the Social Security Act of July 1971. The aim of the patient-centered evaluations is to appraise the quality of medical care, nursing care and social services, as well as their effectiveness in working together.

Another statewide activity that affects every consumer of health care is the Blood Bank Evaluation Program. The blood bank statistics for 1972 showed an increase in the number of donor units drawn, a reduction in the number of outdated units, and a gradual increase in the number of packed red cells used. In addition, the number of blood banks performing technical work was reduced from 158 to 145. This drop resulted from contracts with large hospital facilities to do the skilled technical work for small, low-volume ones that remained as transfusing facilities. The change helped to reduce expenses.

To reinforce the current regulations on blood, which have greatly improved patient care in Massachusetts, the Department revised the Rules and Regulations for the Use of Blood and Other Tissues for the Purpose of Transfusion, to become effective in the fall of 1973.

Radiation Control

The activities of radiological health specialists in the Radiation Control Program help to insure compliance with the Department's program to control hazards from ionizing and non-ionizing radiation sources. With the exception of color television receivers, more than 13,000 sources of radiation in the state are subject to inspection.

Staff carried out the annual surveillance of 1,600 medical diagnostic X-ray tubes, 800 dental tubes, 50 radiation therapy devices, 100 radium installations, 65 nuclear medicine departments, 100 lasers and 100 microwave diathermy units. The Program also conducted radiation control training programs for dental assistants, radiation technologists, nurses, dental and medical students. The evaluation of products involving radiation equipment or services under the Determination of Need Program became an important part of the Department's responsibilities.

A significant area of activity in the past year has been the preparation of proposed Rules and Regulations for Cancer Management in Hospitals and Clinics. The objective of these rules and regulations is to provide an acceptable level of comprehensive cancer management for every affected patient in Massachusetts.

Drug Programs

The Massachusetts Drug Formulary Commission, which functions within Health Care Standards, compiled the first statewide drug formulary in the nation. In the past year, it distributed 30,000 formularies to physicians, pharmacists, health facilities, and medical and pharmacy students in the Commonwealth. The Commission surveyed the use of generic drugs and the practice of generic prescribing by physicians, and recommended legislation to strengthen the original Formulary Law.

The Controlled Substances Registration Program has, since July 1, 1972, registered 13,000 practitioners — physicians, dentists, podiatrists and veterinarians. Applications for registration were sent to 1,296 health facilities. Next year, researchers and teachers must also be registered.

OFFICE OF HEALTH FACILITIES

On July 18, 1972, Governor Sargent signed into law Chapter 776 of the Acts of 1972, the permanent Determination of Need Law. This placed responsibility for determination of need activities within the Department of Public Health. The purpose of the legislation was to prevent unnecessary building of new, or expansion of, existing health facilities, and to avoid wasteful duplication of services and facilities. The legislation also sought to ensure easy access to, and good quality of, health care, and to control spiraling health costs. The Department consolidated all Determination of Need proceedings into one process to cover the following situations:

- 1. The establishment or amendment of the articles of organization of a corporation that requires from the Department a license as a health care facility.
- A substantial capital expenditure (\$100,000 or more) or a substantial change in the number of beds (five or more), or in the types of services, of a health care facility.
- 3. Issuance of an original license to operate as a hospital or clinic.

Provisions in the law allow for recommendations from the Statewide Comprehensive Health Planning (a) Agency, the Area Comprehensive Health Planning (b) Agencies and from groups of ten taxpapers. Chapter 776 also established the Health Facilities Appeals Board in the Executive Office of Human Services to hear appeals from decisions of the Public Health Council.

In the first 14 months of the permanent Determination of Need Program through August 31, 1973 (this included holdovers from June 1972), the Public Health Council acted upon 167 applications (Table 7).

The estimated cost savings on acute care beds in general hospitals alone came to \$7,050,000 in capital outlay, and \$7,452,000 per year in operating costs.

DETERMINATION OF NEED APPLICATIONS

June 1, 1972 - August 31, 1973 Total Beds by Category

	Existing in faci requesting a co of need when a was submitted	ertificate application	App'd by PHC (to exist in these facilities in future)	Net Change
GENE ALFUSPITALS				
Acute Medical/Surgical	1,946	1.7	77	169
Intensive Care Units	125	1:	20	 5
Maternity	245	2:	28	-17
Pediatrics	229	2	13	- 16
Special (Alcohol, diabetes)	52		70	+ 18
Extended Care Units	0		0	0
Psychiatric	21	1	<u>17.</u>	+ 96 93
101.	2,618	2,5	25	93
N AS NG HOMES				
Level				
1	_		‡O	+ 40
B	224	2:	94	+70
1/8	1.624	3,3	40	+1,716
III	2,131	3,2	59	+1,128
IV	944	3,11	76	+ 2,232
Pediatric	0	10	58	+ 168
TOTA_	4,923	10,2	77	+ 5,354
CHRONIC DISEASE HOSP TALE				
Rehabilitation and				
Long-term Care	173	11	73	0

Refers only to the beds existing in facilities maintained by applicants for Determination of Need, NOT total beds for the state.

Health Facility Planning

Within the Office of Health Facilities Development, the staff of Health Facility Planning reviewed all Determination of Need applications before presentation to the Public Health Council for decision.

Personnel also administered the Hill-Burton Program and reviewed requests for FHA funds. Fifteen facilities received over \$4 million in grants and \$18 million in loans in fiscal 1972.

Early in 1973, the Commissioner of Public Health appointed a Health Policy Development Group (HPDG) composed of leading providers and consumers in the health care field to act in an advisory role to the Public Health Council and to recommend specific guidelines and standards on health policy issues. Appointed as members were: Robert Biblo, Thomas D. Cabot, Andrew Jessiman, M.D., Mrs. Frances Miller, Lee B. Macht, M.D., and Jean R. Steel, R.N.

An extension of the Hill-Burton Advisory Council, the HPDG set up two task forces: one to study post-hospital care; the other, to devise a state plan for free care compliance under Hill-Burton regulations.

HEALTH PLANNING AND STATISTICS

The Office of Health Planning and Statistics was organized to centralize the various information centers built up within specific units to monitor programs. The aim was to avoid duplication, to reduce costs of data processing, and to enhance the use of

data and analyses. The following units were merged into OHPS: The Office of Planning, the Office of Health Research, the Office of Emergency Medical Services, and the Information Systems Unit. To these was added the Massachusetts Cooperative Statistical Project, the so-called Federal-State-Local (FSL) Project.

The Information Systems Unit greatly expanded its scope and served as a vital back-up system for many of the activities of the Department, which include:

- Blood Bank Report Monitoring of blood bank resources and blood usage through 158 monthly reports from hospital blood banks.
- Controlled Substances Act Approximately 21,000 computerized mailing addresses of individuals and institutions.
- Annual Hospital Statistical Report Revised to gather more complete information on bed utilization and ambulatory services in hospitals.
- Inventories of Facilities Lists of facilities licensed by the Department expanded to include accreditation and proficiency testing programs of all laboratories in the state, and of certified and dual purpose ambulances.
- Banyl System A computerized tabulation of "beds approved but not yet licensed" for the Department's planners working on the Determination of Need program.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1972 - JUNE 30, 1973

I HEALTH PROTECTION		STATE	FEDERAL	TOTAL
A. HEALTH SURVEILLANCE AN	D DISEASE CON		A 45 000 05	A0 007 700 47
Tuberculosis Control		\$3,682,732.52	\$ 145,066.95	\$3,827,799.47
2. Communicable Diseases		1,663,461.98	263,472.32	1,926,934.30
3. State Laboratory Institute		2,084,358.62	240,637.57	2,324,996.19
B. ENVIRONMENTAL HEALTH		1,746,968.65	958,026.33	2,704,994.98
C. FOOD AND DRUGS		1,611,880.43	62,385.99	1,674,266.42
II HEALTH REGULATION				
1. Health Care Standards		830,507.31	896,534.59	1,727,041.90
2. Health Planning and Statis	tics	636,616.36	257,921.93	894,538.29
3. Certificate of Need		162,356.55	72,946.10	235,302.65
III HEALTH SERVICES				
1. Alcoholism		2,024,188.77	280,567.00	2,304,755.77
2. Family Health Services		2,854,187.39	1,290,275.10	4,144,462.49
3. Regional Offices		324,256.72	632,288.53	956,545.25
4. Hospitals		33,336,589.49	_	33,336,589.49
Lakeville	3,651,978.99			
Lemuel Shattuck	8,850,068.90			
Mass. Hospital School	2,994,438.77			
Pondville	3,400,167.15			
Rutland Heights	3,157,125.45			
Tewksbury	8,457,662.75			
Western Massachusetts	2,825,147.48			
IV COMMISSIONER'S OFFICE AN CENTRAL ADMINISTRATION	D	740,064.29	1,030,092.91	1,770,157.20
JENTINE ADMINISTRATION		7 40,004.29	-1,000,002.01	1,770,137.20
TOTALS		\$51,698,169.08	\$6,130,215.32	\$57,828,384.40



THE YEAR AHEAD

The improvement of the quality of medical care through the strengthening of the regulatory functions of the Department remains a top priority for the year ahead. At the same time, the Department maintains its vital role in providing basic preventive and protective services throughout the state.

Whatever organizational changes may take place, the purpose behind the modifications remains unaltered — to update the programs of the Department of Public Health; to foster improved patterns of care; and to guarantee the most effective programs to protect the health of the people of the Commonwealth.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH N011871N65 **OFFICE PUBLIC HEALTH** OF THE COUNCIL COMMISSIONER Health Policy Development Group Pesticide Board Health Planning Drug Formulary & Statistics **Emergency Medical Services** Administration Legal Special Projects **Determination of Need** Prison Health HEALTH **ENVIRONMENTAL** FOOD AND DRUGS PATIENT CARE **HEALTH CARE** Services SURVEILLANCE **STANDARDS HEALTH** Food and Drug **AND** AND REGULATIONS Laboratories Handicapped Air Quality Control DISEASE CONTROL Children Licensing and Food Inspection Community Sanitation Certification Communicable Diseases Maternal and Child Health Services Wholesome Meat **Environmental Radiation** Hospitals **Tuberculosis Control** & Poultry Alcoholism

Water Supply

and Water Quality

Public Health

Hospitals

Nursing Homes

Clinics

State

Laboratory

Institute



Publication of this Document Approved by Alfred C. Holland, State Purchasing Agent.



MASSACHUSETTS
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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH June 30, 1974

William J. Bicknell, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

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James A. Hooley, M.S.W.	1972-1977
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Jacqueline Carroll	1972-1978
Joen Greenwood	1973-1979
Sr. Mary Caritas, S.P.	1974-1978
Dorothy A. Zaccaria	Secretary

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A REW BALANGE

1973 1974

The year that ended on June 30, 1974, was one of consolidation of the programs of the Department of Public Health. Although the Human Services Reorganization Act (House Bill 6120) failed to pass in the Legislature, the Department reorganized its administrative structure to strengthen the three major areas of responsibility of the Department of Public Health:

Health Protection, which encompasses:

Health Surveillance and Disease Control — to guard the health of the people of the Commonwealth and to control disease through testing, vaccination, treatment, analysis of disease trends and assessment of threats to the population.

Environmental Health — to restore and preserve the integrity of the environment through controlling pollution of the air, water and land.

Food and Drugs — to regulate the quality and safety of consumer products, food and drug processing.

- Health Regulation to regulate the quality and safety of health care facilities through licensing, certification and inspection; through the administration of the Determination of Need Program; and through planning and the collection of statistical data.
- Health Services to provide direct health services through the seven public health hospitals, through the Department's Alcoholism Program, and through services to mothers and children.

Encephalitis Outbreak

The encephalitis episode was undoubtedly the emergency highlight of the year. During August and September, the Commonwealth experienced a large-scale outbreak of Eastern Equine Encephalitis (EEE), the first occurrence of the disease in both animals and humans in the state since 1956. Because both 1972 and 1973 had been exceptionally mild and wet years, conditions were favorable for increasing the breeding success of over-wintering mosquito populations, the principal vector of EEE. By mid-summer 1973, testing of mosquitoes trapped by the Encephalitis Field Station at Lakeville showed evidence of increased arbovirus activity in mosquitoes collected from the Hockomock Swamp area, a historically endemic region in the southeastern portion of the state.

By late July, reports of horses dying with central nervous system disorders were coming into the Department; toward the end of August, the State Virus Laboratory identified cases of EEE virus in both horses and birds. The Department called upon private citizens, naturalists and local public health officials to search for all birds that were too ill to fly, and which could be captured and sent to the laboratory for testing for arboviruses. A 24-hour telephone service to receive citizens' calls was set up at the Department's headquarters and manned by Departmental personnel on a volunteer basis.

To deal with this emergency required the staff and technical resources and cooperation of several Divisions within the Department — the Division of Diagnostic Laboratories, the Division of Communicable Diseases, the Division of Local Health Services, the Division of Environmental Health, and the Pesticide Board. The Office of Health Education coordinated an educational campaign through the press, radio and TV to allay the anxieties of the public. As the epizootic increased, the Center for Disease Control (Atlanta) provided additional assistance to the Department by investigating the individual cases and clusters of meningoencephalitis, and by forwarding the growing number of specimens for testing to the CDC Vector-Borne Disease Laboratory, Fort Collins, Colorado.

A program of aerial spraying by helicopter of those areas from which the EEE virus had been isolated from both horses and birds was begun on September 3 and ended about 12 days later. The Department took necessary precautions to avoid pollution of fields, crops and birds. As a result of the spraying operation, both mosquito populations and the frequency of virus from mosquito pools diminished markedly. Before the episode had subsided, specimens from 98 horses dying with symptoms consistent with encephalitis had been tested in the State Virus Laboratory. Two human cases out of about 200 cases of acute central nervous system disease had been identified. The action by the Department prevented the EEE episode from developing into a more serious outbreak, and provided valuable information for diminishing the effects of possible EEE outbreaks in the future.

Emergency Medical Services

The activities of the Office of Emergency Medical Services were accelerated by passage of what was popularly called the "Ambulance Bill." After 12 years of legislative hearings, debates and defeat, the Ambulance Bill was finally signed into law on October 24, 1973, "to insure high quality emergency medical care through the regulation of ambulances and ambulance services." Regulations adopted under the statute reflected national standards for vehicles, personnel and equipment. They also gave the Department the legal authority to establish requirements governing other aspects of emergency medical care in the future.

During the year, the Office of Emergency Medical Services (OEMS) worked with many agencies and groups throughout the Commonwealth to develop a comprehensive, statewide emergency medical services system. OEMS also undertook several programs to move Massachusetts out of its position as 49th in the nation in emergency services:

- Conducted the first statewide ambulance service survey.
- Trained 1,200 individuals in 30 courses throughout the state as emergency medical technicians.
- Established, through the Comprehensive Health Planning "b" agencies, 28 hospital committees to examine the emergency medical capabilities of their areas.

Internship Program

Under a special, one year Post-BA Internship Program, 11 young women interested in public health began work in the Department on July 1, 1973. They were assigned to different Divisions and programs in accordance with their interests and experience, notably, to the Office of Emergency Medical Services, the Metabolic Disorders Laboratory, Office of Health Planning and Statistics, and Administration.

A moving date, long anticipated, took place in January 1974, when the State Laboratory Institute, formed in 1952 by the union of the Division of Diagnostic Laboratories with the Division of Biologic Laboratories, began moving into its eight-story, highly specialized building that replaced the Bussey Building, built in 1867. For the first time in the history of the Division of Diagnostic Laboratories, all its units are now housed under one roof. A second-floor covered walkover connects the new building with the laboratories and offices of the Division of Biologic Laboratories. Built to provide a complete testing, research and teaching center, the new structure provides suitable areas for the functioning of the Institute.

This 60th Annual Report* is a brief accounting of the Department of Public Health during a year of activity that aimed to strengthen the balance among the three cornerstones of the Department — protection, regulation and services.

^{*} In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

HEALTH SERVICES

One of the major functions of the Department of Public Health is the provision of direct health services that are not provided by the private sector. Primary services include: hospital care through the seven departmental hospitals, detoxification and rehabilitation of alcoholics through the Department's community-based alcoholism program, and services to mothers and children through Family Health Services.

ALCOHOLISM PROGRAM

Passage by the Legislature of the Comprehensive Alcoholism Treatment and Rehabilitation Act in 1971 strengthened the powers of the Division of Alcoholism to establish a coordinated, comprehensive program of treatment, rehabilitation and prevention of alcoholism. The law, which became effective on July 1, 1973, abolished the crime of public intoxication, and provided for the establishment of detoxification and other facilities for the treatment of the alcoholic.

By June 30, 1974, the Division had established 20 alcoholism intervention centers with 460 beds. Three additional centers were being planned and scheduled for opening later in the year.

Several programs continued to operate and grow: An Alcohol Safety Action Project for the City of Boston, funded by the Department of Transportation, had an important impact on the number of drunk driving arrests in the city. Closely related to this program is a follow-up treatment center for drunken drivers that is funded by the National Institute for Alcoholism and Alcohol Abuse (NIAAA). The center, which offers a four-week rehabilitation program, saw 527 clients during the year.

Eight programs directed toward poverty populations, originally funded by the Office of Economic Opportunity, continued to operate under grants from the NIAAA. These programs offered many services to low-income and minority groups in Boston, Plymouth, Framingham, Chelsea, Malden, Lowell and Northampton.

By September 1973, the Division had completed standards and guidelines for services in detoxification centers, halfway houses and in general hospitals treating the alcoholic. With the expansion of services to the alcoholic in the state, the Division assigned a staff member to develop a standard evaluation system for all programs. Such a system will make possible more effective treatment of all alcoholic clients.

HOSPITALS

Through its seven hospitals, the Department provides a broad range of clinical services to meet the needs of patients with long-term but remediable disabilities. In the past year, the Department has been considering what its role should be in the provision of medical services through its seven institutions. At the same time, the hospitals have continued to work closely with regional planning and community groups to develop programs for needed services that are not provided by other hospitals, voluntary or private, or by other health agencies. New services and programs perhaps indicate the trend ahead:

- Lakeville Hospital worked to coordinate its services with a system of comprehensive services for all handicapped individuals, particularly those living in southeastern Massachusetts. The core of these services at the hospital is physical, medical and surgical rehabilitation.
- Lemuel Shattuck Hospital's program to provide surgical services to Department of Mental Health institutions has grown to include an increased number of referrals of nonsurgical, chronically ill patients. A somewhat similar back-up service for the Department of Correction was established within a designated six-bed locked and guarded section. A new unit, the John Mason Tyler Emphysema Center, was established within the chronic lung disease program.
- The Massachusetts Hospital School, the Department's hospital and residential facility for physically handicapped children, added a new clinical service for patients with Friedrich's ataxia (or their families). Clinic staff provide cardiac and respiratory evaluations, suggestions for maintaining function, and play an advocacy role for afflicted children with problems related to school or job.
- The Radiology Department of Pondville Hospital went into full operation with completely equipped diagnostic and therapeutic sections. The diagnostic division now has the most sophisticated equipment

available, including mammography, thermography and sonography. A 4-million electron volt (MEV) linear accelerator was in operation during the past year, when a Betatron 45 MEV linear accelerator, the most powerful radiological weapon now in use in the treatment of cancer, was installed. The latter equipment was to be in operation within six months.

- The Community Comprehensive Health Clinic at the Rutland Heights Hospital continued to provide complete multiphasic examinations to a growing number of clients. Serving as a community health resource, the hospital gave assistance to high school and college students who were writing papers relevant to health by allowing them to work in the record library and with patients.
- During the energy shortage, Tewksbury Hospital was one of the agencies that participated in the "State Emergency Gasoline Network for Ambulances." Maintaining close ties with the community, the hospital cooperated with the Neighborhood Youth Corps in their program for the employment of underprivileged children. The hospital provided quarters for a Head Start Program and for a Day Care Center that provides services for working mothers from low-income families.
- The Western Massachusetts Hospital has undergone a change in the services offered. Primarily concerned with the treatment of cancer and tuberculosis in the past, the hospital is now concentrating on rehabilitation. On December 4, 1973, it opened an Alcoholic Unit to provide detoxification, rehabilitation and outpatient services. From the beginning of the program through June 30, 1974, there were 305 admissions.

The seven hospitals, with an actual operating capacity of 2,042 beds, admitted 7,279 patients during fiscal 1974. The hospitals had an average daily patient load of approximately 1,600 and an average daily admission of 20 patients. The average length of stay varied from 20 days at the Lemuel Shattuck and Pondville Hospitals to 261 days at the Massachusetts Hospital School. The number of outpatient visits continued high — 48,377.

Table 1 disease

PUBLIC HEALTH HOSPITALS

YEARLY CENSUS SUMMARY - JULY 1, 1973 - JUNE 30, 1974

	Operating Capacity	Admissions	Discharges	Average Daily Census	Percent of Occupancy	Average Length Of Stay	Outpatient Visits	Fotal Patient Days
Lakeville	150	309	311	115	71	84	2,342	42,060
Lemuel Shattuck	205	2,840	2,646	164	80	20	8,878	59,808
Mass Hospital School	175	204	216	102	60	261	795	36,840
Pondville	96	1,297	1,093	65	70	20	17,243	25,288
Rutland Heights	160	759	698	126	74	57	4,923	45,898
Tewksbury	1,136	966	812	937	84	136	0	374,733
Western Mass.	120	904	823	70	91	28	14,196	23,673
Totals	2,042	7,279	6,599	_		_	48,377	608,340

The hospitals provide the following services:

Hospital Services Lakeville Comprehensive rehabilitation and education for handicapped children. rehabilitation for physically handicapped adults, chronic renal dialysis. Lemuel Shattuck Medical and surgical care of chronic illness. emphasizing pulmonary disease care, renal dialysis, chronic alcoholism and vascular programs. Massachusetts Education and vocational training coupled Hospital School with medical and surgical care of physically handicapped but intellectually able children. Pondville Multimodality treatment of cancer in adults and children. Rutland Heights Long-term hospitalization and rehabilitation of adults with chronic diseases and alcoholism. Tewksbury Medical and surgical care of chronically ill and severely handicapped adults, alcoholism program. Western Long-term care of chronic illnesses in Massachusetts adults, rehabilitation and alcoholism

The Department's hospitals, as part of the total public health effort, were being used to develop and implement programs for the training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts Hospitals, through their accredited schools of practical nursing (all now on a 12-month curriculum) graduated about 150 licensed practical nurses, many of whom continue to work at the hospitals.

programs.

The hospitals also provided inservice training, conducted seminars, participated in broadly sponsored programs and engaged in research, especially in the areas of cancer, heart disease and stroke.

FAMILY HEALTH SERVICES

Through the two components of the Division of Family Health Services — Maternal and Child Health and Services for Handicapped Children — the Department continued to carry out many programs that aim to reduce infant and maternal morbidity and mortality, promote maternal and child health, and evaluate and treat handicapped children.

Maternal and Child Health

During 1974, the Family Planning Program of the Division of Family Health Services provided assistance and consultation to the Departments of Mental Health and Public Welfare, and to community agencies. Activities centered around the provision of training to staff, improved gynecological care to women in institutions who were outward bound, and the development of guidelines on family planning and abortion.

Other Family Health Service projects included: aid to the hard of hearing (487 hard of hearing and deaf children received hearing aids under the Department's liberal hearing aid program), vision conservation, rheumatic fever prevention, the premature birth programs for wed and unwed mothers, and funding for PAGE, a program of continuing education, sex counseling, and health hygiene for unwed junior high and high school mothers.

Handicapped Children's Services

The Department's three preschools — the Baylies Beginning Center at the Massachusetts Hospital School, the Anne Sullivan Day Care Center at the Tewksbury Hospital, and the Dimock Street Preschool in Roxbury — had a total enrollment of over 100 children. Staff from other day care centers, Head Start programs, and from clinical nursery schools observed the programs at the centers, which operate as open, integrated classrooms for both handicapped and nonhandicapped children.

The new Children's Ward of the Tewksbury Hospital became an integral part of the Department's Services for Handicapped Children in January 1974. The unit was opened to provide inpatient services to children from the clinical population of the northeastern region of the state; to provide services to children with retardation handicaps as well as physical disabilities; and to provide intensive evaluation of children accepted on the program of Services to Children with Multiple Handicaps.

The identification of handicapped children at an early age so that they may have an opportunity to develop to their greatest potential is a primary goal of the Department. Through the program of services to multiply handicapped children, the Division of Family Health Services was able to provide homemaker services, pediatric nursing home care, home-based therapies and developmental day care to meet the individual needs of each child.

Working with representatives from the Departments of Education and of Public Welfare and from voluntary agencies, the Division also provided consultation in the development of rules and regulations to implement Chapter 766 of the General

Laws. This statute requires cities and towns to provide comprehensive evaluation and educational programs for children with significant health problems.

The Epilepsy Control Program continued to provide medication for children in all state neurology clinics and for patients in the Handicapped Children's Programs who have seizure disorders. Under the Adult Seizure Medication Program, adults who have financial problems receive aid to purchase medicines.

Community Health

The four regional health offices continued to coordinate the Department's general field activities, and to act as intermediaries between the central service programs and the local health agencies. These offices helped the local health agencies either by consultation or by direct assistance in the local programs. These included school and personal health services, the application of the State Sanitary Code, day care licensure, and home health agency certification.

Only a few activities of each regional office in the past year can be noted:

- Central Region A program for T.I.E. "Testing Infants Early" to identify children with handicapping conditions was organized in the Southbridge-Webster area and in Palmer in Region I. The physical therapist from the Handicapped Children's Services and the nurse from the Southbridge Mental Health Unit make up the team that examines potential high-risk infants two or three times during their first year, then makes referrals to primary care physicians for treatment or follow-up.
- Northeastern Region Nursing advisors acted as consultants to the 41 certified home health agencies in the region. The epidemiologist worked closely with the local boards of health and school department personnel to institute triviral immunization programs in communities with a low percentage of immunized school children. One such program, conducted with the Lawrence Health Department, immunized approximately 3,200 children.
- Southeastern Region In the absence of decisive action on the part of local officials and agencies, the Regional Office worked to create a community awareness of the problem of lead poisoning, and to stimulate a demand for services. Several nursing agencies and a few hospitals initiated screening programs. Many children with elevated lead levels were found and placed under treatment.
- Western Region With the employment of a nutritionist in the Boston central office, principally to provide advisory services to state institutions, including prisons, the emphasis of the regional nutrition program changed during the year. Staff visited all State Mental Health and Public Health facilities and provided consultation.

Table 2
GONORRHIA
MASSACHUSELLS 1960 73

HEALTH PROTECTION HEALTH SURVEILLANCE AND DISEASE CONTROL

Health surveillance and disease control encompass the classic core activities that are and must remain the direct responsibility of the state. These activities are carried out primarily in three related sections of the Department: Communicable and Venereal Diseases, Tuberculosis Control and the State Laboratory Institute.

COMMUNICABLE DISEASE CONTROL

The impressive progress initially recorded through the state-wide measles immunization program from 1965 through calendar year 1971 — a drop from 19,512 cases to 276 — came to an abrupt halt in 1972. In that year, 1,173 cases were reported, a fourfold increase. The 3,953 cases reported for 1973, although an 80 percent reduction from 1965, indicated that there were many pockets of low immunization throughout the state.

The statewide immunization program continued, however, to record impressive progress in controlling mumps — down from 9,024 cases in 1969 to 1,330 in 1973, a significant drop of 85 percent.

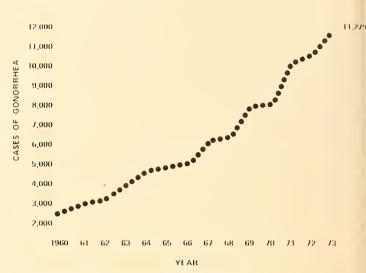
A rubella outbreak in 1973 accounted for 2,046 reported cases, a sharp jump upward from the 572 cases in 1972. As a result of this outbreak, the rubella immunization program was intensified by the use of the biviral vaccine, soon to be replaced by a triviral vaccine.

The statewide survey of children entering kindergarten and grade one conducted by the Division, at 10-year intervals, showed the following percentages of these children immunized against the seven immunizable diseases:

Diphtheria 🔪	Measles	90.3
Tetanus DTP 88.6	Mumps	59.3
Whooping Cough	Rubella	62.3
Polio 86.2	· ·	

Having accomplished one of the major objectives of the survey — to delineate pockets of low immunization — the Division carried out mass immunization programs in the localities. Another result of the 1973 survey was the decision made by the Division, with the approval and cooperation of the Department of Education, to carry out an annual survey.

The prevalence of other preventable infectious diseases in the state remained low. Only 27 cases of whooping cough were reported in 1973, and one case of diphtheria. There were no reported cases of smallpox or of tetanus.



VENEREAL DISEASE PROGRAM

Gonorrhea is epidemic in Massachusetts as it is throughout the world and nation. Primarily because of the difficulty of diagnosis in women, it remains the uncontrolled and uncontrollable venereal disease. The 11,279 cases of gonorrhea reported in 1973 in Massachusetts represent an 8.1 percent increase over 1972.

During the same period, primary and secondary syphilis showed an increase of 47 percent: 519 cases in 1972, 763 in 1973. Early latent syphilis increased by 48.8 percent: 381 cases in 1972, 567 in 1973.

In its attack upon venereal disease, the Department continued its three-pronged program of education, treatment and control. The 22 cooperating state venereal disease clinics in the outpatient departments of general hospitals had 58,479 patient visits for examination and treatment.

The Division received a federal grant of \$493,266 for the screening of females for gonorrhea, with major emphasis on asymptomatic women. Laboratory support was received from the Division of Diagnostic Laboratories, and from 25 hospital and private laboratories to provide coverage for the entire state. Approximately 100 groups or individuals — neighborhood health centers, family planning clinics, student health services, other types of community-based clinics, and private physicians — participated in the program. During fiscal 1974, the program examined 127,478 women by culture, of whom 4,123 were found positive, a positivity rate of 3.2 percent.

In addition to activities in prevention and control, the Division was engaged in several applied research studies, including:

 Evaluation of various treatment schedules and antibiotics in the treatment of gonorrhea. At the same time, gonorrheal cultures from current patients are tested for levels of penicillin sensitivity.

TUBERCULOSIS CONTROL PROGRAM

Tuberculosis in Massachusetts remains a significant health problem and a serious source of crippling disease. Contrary to the predictions of many, it still occurs in distressingly large numbers of young people, both in the form of initial conversions and in the later manifestations of acute pulmonary or central nervous system disease. In the calendar year 1973, the number of newly diagnosed cases reported was 680, a decline of 9.3 percent from the cases reported in 1972.

The failure of the new tuberculosis case rate to decline as rapidly as had been expected is attributable to: 1) an influx of high-risk population into the state; 2) high unemployment rates and continuing decline in the standards of inner-city housing; 3) the ever-present problems of alcoholism and other forms of self-abuse.

Radical reform of the administration and financing of the Tuberculosis Program proceeded on schedule. Fiscal 1974 marked one of the most difficult stages — the institution throughout the state of a fee-for-service outpatient tuberculosis system to replace a plethora of local project-funding and direct hiring arrangements. Through cooperation of the Massachusetts Rate Setting Commission, standard, but flexible, rates for outpatient services were established, and contracts negotiated with all major providers of tuberculosis outpatient services. At the same time, the chemoprophylaxis surveillance program was radically expanded, relying principally on nurse practitioners in the network of state tuberculosis outpatient services.

Inpatient Programs

The relative decline of the sanatorium-based inpatient tuberculosis services continued. The Tuberculosis Control Program completed negotiations for a surgical tuberculosis inpatient program at the Massachusetts General Hospital and at the Deaconess Hospital in Boston to begin on July 1, 1974. During the year, integration of tuberculosis treatment services into the general medical services of the state proceeded still further. New outpatient services became fully operative at the Brockton Hospital, the Milford Hospital, and at the Framingham Union Hospital. The Haverhill Hospital tuberculosis clinic was amalgamated into the existing program at the Lawrence General Hospital, and a new regional outpatient service was planned for early fiscal 1975 at the Malden Hospital. A new, and important, outpatient program to provide services for Brighton, Allston, Newton and Brookline is also planned for early 1975 at St. Elizabeth's Hospital in Brighton.

The Tuberculosis Control Program was successful in eliminating chest X-ray screening as a first-line procedure throughout the Commonwealth, with the single exception of the City of Boston. The Mantoux test is now the standard screening procedure in the state, with certain exceptions. Tine-testing programs continued, however, in some high-risk communities.

Tuberculosis screening services were extended into alcoholic detoxification units. The special service at the Pine Street Inn for alcoholic, homeless men in central Boston was elevated to full clinic status, with a regular physician and nurse in attendance. The services for aliens continued throughout the year, as did assistance in providing tuberculosis screening programs in state and county prisons.

The Tuberculosis Control Program remained the largest single clinical program of the Department, with a yearly budget of over \$3,500,000.

FLUORIDATION PROGRAM

The Fluoridation Project continued its program of education throughout the state. It sent copies of the revised Fluoridation Handbook for Massachusetts Communities to agencies in the state that had requested the handbook. Exhibits, pamphlets and other written material helped to bring the message of fluoridation to communities that faced referendums during the year.

During fiscal 1974, the City of Cambridge began fluoridating its water supplies, the 51st community to do so. In the five years during which the Fluoridation Project has been active, the percentage of the state's population on fluoridated public water supplies rose from 7 to 22 percent; this places Massachusetts 46th in the United States.

Twenty-four years after the Department had first asked for fluoridation of the Metropolitan District's water supply, the Legislature ordered the Metropolitan District Commission to fluoridate its drinking water and voted \$1 million for that purpose. The Greater Boston Area thus became the next to the last population center in the country to accept this vital public health measure. When fluoridation of the MDC's water supply takes place — the target date is 1977 — 53 percent of the state's population will receive fluoridated water.

The Fluoridation Project is now concentrating its efforts on all other communities in the Commonwealth in order to bring Massachusetts well above the national average. No community in the state has water supplies with an adequate natural fluoride content.

Table 3
Diagnostic Laboratories
Metabolic Disorders
Laboratory
July 1973 – June 1974

A.	Routine Specimens	Total
	Cord Blood	66,237
	Newborn Blood	71,373
	Urine	55,315
	Follow-up Blood	276
В.	Other Specimens	
	"Special" Blood	1,462
	Repeat Newborn Blood	1,031
	"Special" Urines	1,193
	Repeat Newborn Urmes	1,419
	Parent Specimens	278
Tot	al Number of Specimens	198,584
Tot	al Number of Tests Performed	919 320

DIAGNOSTIC LABORATORIES

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assisted local laboratories throughout the state to achieve a high degree of excellence in the performance of clinical laboratory tests. During 1973-1974, the Program evaluated 329 laboratories — 46 more than in the previous year — for the performance of one or more specified test categories. The Laboratory Improvement Program sent out 32,983 proficiency tests specimens, an increase of more than 8,000 over last year.

The program remained responsible for proficiency testing of hospital blood banks, of laboratories performing maternal and prenatal blood tests for syphilis, and of laboratories in the Medicare Program.

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism, the largest neonatal screening program for metabolic disorders in the world. The total number of tests performed was 919,320 (Table 3).

During the year, 12 infants with phenylketonuria (PKU), the largest number in any year of screening, were identified and placed on the appropriate diet. Two mothers with maternal PKU were discovered. They are being carefully followed so that a low-phenylalanine diet can be considered during future pregnancies.

Several important studies were fully completed or nearly completed, including an analysis of the clinical and biochemical characteristics of the many children found to have histidinemia. Another study involved a comprehensive cost-benefit analysis on screening for and treatment of diseases that cause mental retardation.

STATE LABORATORY INSTITUTE

Through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, the State Laboratory Institute continued to provide many services to the Commonwealth:

- Production and distribution of serums and vaccines for use throughout the Commonwealth
- Performance of a variety of tests on approximately three-quarters of a million specimens for clinical diagnostic purposes (inborn errors of metabolism, streptococcal infection and venereal diseases)
- Diagnosis of rare or exotic diseases
- Laboratory back-up services for quality control
- Research

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories took over the East Wing of the eighth floor of the new State Laboratory Institute Building to carry out special studies for product development and analysis. Improvements in the existing Biologic Laboratories building allowed the Blood Fractionation Laboratory to meet the increasing demand for hepatitis-free human blood plasma derivatives. Other important developments during the year included:

- Hepatitis B Immune Globulin Field studies on the effectiveness of Hepatitis B Immune Globulin continued on a large scale. Efforts were maintained to identify local sources of antibody-containing plasma for future production of the globulin.
- Dysentery Toxoid Vaccine A toxoid vaccine from Shigella dysenteriae was prepared for testing in nonhuman primates in collaboration with the Walter Reed Institute of Research.
- Serums and Vaccines Fermenter techniques were applied to production of a variety of bacterial vaccines in an effort to develop superior products and more efficient production processes.
- Rh Immune Globulin The number of doses distributed to hospitals for full-term deliveries reached 7,717, enough to treat all mothers in the state who might be at risk of giving Rh disease to their newborns. Plasmapheresis for the program was begun at both the Framingham Union Hospital and the Bon Secours Hospital in Methuen.

Table 4

FIVE YEAR SUMMARY OF NUMBER AND KINDS OF SPECIMENS EXAMINED BY THE DIAGNOSTIC LABORATORIES

Bacteriology	1970	1971	1972	1973	1974
Agglutinations	2,535	2,420	2,247	546	136
Enteric Pathogens	13,830	13,019	13,126	12,368	10,879
Gonorrhea	6,461	13,463*	17,373*	19,240*	19,882*
Malaria	_	-	-	_	-
Mycology	195	147	183	190	314
Throat Cultures	143,157	166,586	168,075	110,548	142,942
Tuberculosis	4,687	5,152	2,345	_	_
Vincent's Gingivitis	10	18	34	3	7
Food Miscellaneous	68 1,270*	45	20	141 1,120	65 1,176
Wiscellaneous	1,270	460	817	1,120	1,176
Totals	172,213	201,310	204,220	144,156	175,401
Hinton					
Syphilis Serology	415,162	376,559	370,019	276,359	264,136
Rabies	632	691	696	632	745
Totals	415,794	377,250	370,715	276,991	264,881
Virus					
Virus Isolations	280	331	779	1,121	1,368
Virus Serology	6,172	5,416	2,581	3,175	5,492
Encephalitis Program	3,687	4,260	1,567	3,431	5,602
Rubella Program	4,791	4,832	7,700	3,483	3,715
Totals	14,930	14,839	12,627	11,210	16,111
Metabolic Disorders					
PKU Screening	203,540	229,945	203,939	196,139	192.925
Special Studies	131,583	3,588	3,756	3,287	5,659
-,					
Totals	335,123	233,533	207,695	199,426	198,584
Grand Totals	938,060	826,932	795,257	631,783	654,977

^{*} Includes cultures and smears.

Virus Laboratory

Despite time lost in moving from old quarters to the new State Laboratory Institute Building, the Virus Laboratory's quantitative output increased markedly. The number of specimens received and tested for the isolation and identification of viruses (excluding arboviruses) rose from 1,121 in the fiscal year 1973 to 1,368 in 1974, an increase of 22 percent. The volume of diagnostic serology testing for a wide variety of virus disease increased by 73 percent. There was a substantial increase of 60 percent in the number of tests carried out in the arbovirus program.

The Virus Laboratory developed changes that have substantially improved the sensitivity and reliability of the rubella immunity test. At the same time, there has been a considerable reduction in costs not only of personnel but of time, supplies and reagents.

Bacteriology Laboratory

The busiest diagnostic laboratory in the State Laboratory Institute, the Bacteriology Laboratory increased its workload of specimens examined (175,401) by 17.4 percent over the previous year. A modest restoration of funds for the Throat Culture Program and the raising of the age of patients eligible for the service from age 12 to 20 were mainly responsible for the increase.

The Enteric Disease Program made unusual identifications that included six cases of the *Shigella dysenteriae* group. Tests revealed the presence of *S. eastborne*, a rarely reported serotype in the United States. The Laboratory worked with the Division of Communicable and Venereal Diseases, the United States Public Health Service, and the Center for Disease Control in tracking down the source of an eventual national outbreak of 79 cases in 23 states (seven in Massachusetts).

The Department's world-famous Wasserman Laboratory was renamed the William Hinton Serology Laboratory in honor of William A. Hinton, M.D. Dr. Hinton, who had initiated the pioneer work in syphilis serology, served as the first and only director of the Wasserman Laboratory from 1915 until his retirement in 1953.

ENVIRONMENTAL HEALTH

As concern for improving and maintaining the quality of the environment has intensified, the responsibilities of the Division of Environmental Health have grown. New state and federal regulations, especially those relating to air pollution and solid waste management, demanded the training of a larger staff of inspectors and engineers.

Water Supply and Water Quality

The Bureau of Water Supply and Water Quality, which is responsible for the environmental engineering aspects and surveillance of approximately 350 municipal water supply systems, was concerned with the dangers inherent in the operation of a public water supply system without a program of continuous inspection for cross connections installed inadvertently or illegally.

The Bureau continued to survey and classify over 40,000 acres of shellfish growing areas along the 2,000 miles of Massachusetts coastline, and posted all shellfish areas that were closed to shellfish harvesting because of pollution.

The paralytic shellfish poison (PSP) monitoring program that had been instituted as a result of the PSP episode in the fall of 1972 failed to uncover any new intrusion of *Gonyaulax tamarensis* into Massachusetts coastal waters during the summer and fall of 1973. In later May 1974, however, elevated concentrations of PSP were found in shellfish harvested along the North Shore and from a few secluded coves on Cape Cod. Shellfishing grounds in Ipswich, Essex and Gloucester were closed. By the end of June, the detoxification process had sufficiently reduced the PSP levels in these areas to warrant their opening.

Other programs of the Bureau that were in operation throughout the year included: approval of all applications for the use of herbicides in the waters of the Commonwealth; and recommendations to cities, towns and lake officials for control of aquatic weeds or algae. An appropriation of \$100,000 allowed the Bureau to let out contracts and treat lakes and ponds in ten communities to control aquatic vegetation.

Community Sanitation

The change in the living habits of the people of the Commonwealth greatly increased the burden of the Bureau of Community Sanitation, which is responsible for the control of the disposal of sewage and industrial wastes into the ground. The development of large condominiums and other types of multiple dwelling units in areas served by municipal sewers required the attention of the field staff in the regional offices. The Bureau drafted a *Manual of Procedure* for the design of sewage treatment plants for larger installations where the effluent is finally to be disposed of in the ground.

The Bureau continued its efforts to eliminate all public health problems and nuisances created by the operation of insanitary solid waste practices and facilities. Regulatory activities of the Bureau indicated that conditions of an emergency nature already exist for many large communities. The Bureau cooperated with the Bureau of Solid Waste Disposal of the Department of Natural Resources, with the Department of Natural Resources, and other state and local regulatory, operational and planning agencies to coordinate the entire program of solid waste management in the Commonwealth.

The inspection of all farm labor camps and their certification prior to their use by migrant farm workers, a permanent activity of the Bureau, was hampered by a lack of personnel. Examinations of recreational camps, family camping grounds and motels decreased as available personnel were diverted to other activities.

The Bureau received many requests for advice and assistance on the control of rats, bats, mosquitoes, flies, roaches and other insects. Since the control of such animals and insects goes beyond the activities of the Division of Environmental Health, the Division is represented on the State Reclamation Board, which has responsibility for mosquito control and other similar projects.

Air Quality Control

The Bureau of Air Quality Control worked to carry out the provisions of the Massachusetts State Implementation Plan (SIP) to the National Clean Air Act of 1970. The SIP had developed control strategies to permit the Commonwealth to meet the National Air Quality Standards by May 31, 1975.

The Bureau took enforcement actions that resulted in significant reductions in ambient levels of particulate matter and of sulfur dioxide. In several locations where particulate levels exceeded the air quality standards, steps were taken to determine the composition of the material collected. Such investigations are essential if meaningful control strategies are to be developed.

The importance of an informed public to the success of the quality control program was underscored by the large number of citizen complaints to the regional offices. Investigation of the complaints uncovered over 2,000 violations; enforcement measures brought about nearly 100 percent compliance with the regulations.

Environmental Health Laboratories

The Lawrence Experiment Station and three district laboratories — at Amherst, Lakeville and Tewksbury — provide the laboratory services for the Division of Environmental Health.

The energy crisis that developed during the year necessitated a dramatic increase in the analytical support to the Bureau of Air Quality Control. The air pollution programs for monitoring the particulate matter, sulfur dioxide and oxides of nitrogen concentrations at the 62 sampling stations throughout the state were changed from a six-day to three-day sampling schedule. The scarcity of low sulfur fuel and the Department's regulations on the burning of fuels with a specified sulfur content led to a marked increase in the number of oil samples analyzed for the percentage of sulfur.

A legislative appropriation of \$25,000 supported the laboratory activities of the Paralytic Shellfish Monitoring Program during fiscal year 1974. The Lawrence Experiment Station performed all bioassay testing of shellfish samples collected from the key monitoring stations from May 1 to October 1, 1973. All reports on paralytic shellfish poison were

prepared by the Station, which sent copies to the Health Departments in Maine, New Hampshire and Connecticut, as well as to State and Federal Food and Drug officials, the Division of Marine Fisheries and the Bureau of Fisheries, Environment, Canada.

Expanded research activities and special studies at the Lawrence Experiment Station covered a wide range of subjects:

- A study to evaluate the efficiency of granular activated carbon in removing trace organics from finished drinking water continued under a grant from the United States Environmental Protection Agency.
- Significant progress was made in developing a rapid fluorometric method (RFM) for measuring the concentration of trace organics in drinking water. The advantage of this experimental procedure lies in the short period of time required to perform the measurement.
- Final evaluation studies were completed on the direct count procedure for fecal coliform measurement in estuarine water.

In the past year, the environmental health laboratories at the Lawrence Experiment Station performed tests on the following samples:

Bacteriological (Coliform Analysis)	29,535
Chemical (Water Supply)	10,207
Chemical (Water Pollution)	1,618
Radiological	2,616
Air Analysis	10,253
Paralytic Shellfish Poison — Assays	1,103
Biological	1,093
Special Chemical (Pesticides, Oil)	300
Total	56,725

This represents a three percent increase in the number of samples examined over the previous year. The true increase in the workload was greater since the number and complexity of analyses performed on each sample had multiplied.

Table 5

Drug Samples Submitted To Boston Laboratory For Chemical Analysis By Local Police Departments

Fiscal Year	Samples
1964	1,337
1965	834
1966	2,899
1967	3,338
1968	11,243
1969	21,995
1970	30,048
1971	39,760
1972	46,748
1973	38,962
1974	34,790

FOOD AND DRUGS

The consumer population, more sophisticated and more vocal than at any time in the past, expects public agencies to maintain a healthy environment. Increasingly aware of the hazards to health that surround him — whether it be the food he eats, the clothing he wears, the drugs he ingests or the toys he buys — the consumer demands more and stricter controls from the Department of Public Health.

The Division of Food and Drugs is charged with the responsibility of protecting the consuming public from the detrimental effects of chemicals, adulterated foods, unsanitary bedding and upholstery. The Division is also responsible for the licensing of vending machines, cold storage warehousing, upholstered furniture, stuffed toys; the licensing of manufacturers of narcotic drugs and of establishments that use animals for experimental purposes; the licensing of slaughterhouses and of meat and poultry establishments.

The enormity of the task of the Division in only one area — inspection of food — is evident from the following data: The inspections of food covered the whole distribution chain from the source of food to the ultimate purchase by the individual consumer. Included in this cycle were more than 1,800 food manufacturers and processors, approximately 1,350 food trucks, about 1,225 wholesale distribution points, and almost 40,000 retail food outlets. Each activity represented a possible point of food contamination and required individual surveillance by experienced inspectors.

During the past year, the Division's responsibilities grew with the establishment of the Seafood Laboratory in Fairhaven. Developed to determine standards for grading seafood and to carry out special research projects, the laboratory, located within minutes from the New Bedford fish piers, conducted routine bacteriological, chemical and bioassay tests for the New Bedford, Cape Cod and South Shore areas.

The Department's responsibilities under the Controlled Substances Act were transferred from the Division of Health Care Standards to the Division of Food and Drugs. The centralization of responsibility thus provided the entire registration program a core of trained inspectors, chemists and clerks.

Burn Reports

In 1973, accidental deaths caused by ignition of clothing and other highly inflammable material dropped from 9.1 (in 1972) to 6 percent of the total number of fatalities in Massachusetts. The decline may be attributed in part to the passage of two important pieces of legislation initiated by the Division of Food and Drugs. The first defines more clearly the word "flammable" when used in reference to children's sleepwear up to the age of 14. The second requires a physician, intern, medical assistant or public-health nurse to report to the Department cases of individuals with burns caused by fabric ignition that affect 5 percent or more of body surface.

The law requires the Department to maintain comprehensive records of all such reports, a responsibility assigned to the Division of Food and Drugs. The Division devised a form, copies of which were distributed to hospitals throughout the Commonwealth, and began compiling data as the reports came in.

In a related matter, the Department passed regulations on March 26, 1974, that require warning labels to be affixed to camping tents. Extensive testing in the Department's Boston laboratory showed that, almost without exception, all camping tents sold to the public were highly inflammable.

The Food and Drug Laboratories of the Division, located in Boston and Amherst, provided vital information and services to local boards of health, local and state police, the Department of Natural Resources, and the Alcoholic Beverages Control Commission.

During the past fiscal year, the Drug Analysis Section analyzed 34,790 samples submitted by local police departments, an increase of 31,891 samples over those submitted in 1963-1964 (Table 5).

HEALTH REGULATION

Through its programs of standard setting, inspection, licensure and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has responsibility for preventing unnecessary expansion of health care facilities.

HEALTH CARE STANDARDS

One of the regulatory arms of the Department, the Division of Health Care Standards has assumed a greater role in quality control and utilization review. It is responsible for enforcing the criteria for licensure or certification in a health care system that includes more than 2,000 health facilities — hospitals, nursing homes, rest homes, clinics and infirmaries, and independent laboratories. It is also responsible for the inspection of all diagnostic and therapeutic X-ray units in hospitals, private offices and departments of nuclear medicine.

The certification responsibilities of the unit extend into both the Medicare and Medicaid programs. The specialized Long-Term Care Facilities Program surveyed approximately 185 hospitals, 600 nursing home facilities, 110 independent laboratories, and 161 home health agencies for the Medicare and Medicaid programs. Upon recommendation of staff, the Public Health Council renewed the licenses for: 220 nursing homes, 50 rest homes, 69 charitable homes for the aged, and 6 city or town infirmaries. A new program was undertaken to survey chronic hospitals for Medicare. This resulted in complete inspection for eight hospitals that had not previously participated in the Medicare program.

The important Periodic Medical Review Program in skilled nursing homes and state mental hospitals was accelerated. The aim of the patient-centered evaluations is to appraise the quality of medical care, nursing care and social services, as well as the appropriateness of levels of care for patients. In two years, ending December 1974, the program recommended the transfer of 26 percent of 3,291 patients in 119 skilled nursing facilities to a lower level of care. The recommendations will result in a substantial savings to patients and to the Commonwealth.

The Blood Bank Evaluation Program continued its routine inspection of blood banks in the state. The monthly statistical reports on the utilization of blood and its components gave the Department a baseline for monitoring the number of donor units drawn, the number of outdated units, and the number of packed red cells used. The Department's revised Rules and Regulations for the Purposes of Transfusion became effective in the fall of 1973.

Radiation Control

The activities of radiological health specialists in the Radiation Control Program help to insure compliance with the Department's program to control hazards from ionizing and nonionizing radiation sources. With the exception of color television receivers, more than 13,000 sources of radiation in the state are subject to inspection. The program does, however, survey colored television receivers, microwave ovens, and supermarket laser checkout systems on a request basis

Staff carried out the annual inspection of 1,127 medical diagnostic X-ray tubes, 989 dental tubes, 50 radiation therapy devices, 100 radium installations, 65 nuclear medicine departments, 100 lasers and 100 microwave diathermy units.

In addition to routine surveillance, the Radiation Control Program collected data on the number of diagnostic procedures, such as radiographic-fluoroscopy, CAT brain scans, pneumoencephalograms, cerebral angiograms, and radionuclide brain scans. A review of the data showed a large increase in the number of the latter. The Program also monitored the field of radiation oncology to determine the number of new patients, the total number of treatments given, and the availability of treatment planning.

HEALTH FACILITIES AND DEVELOPMENT

The Office of Health Facilities Development performs the staff reviews of all applications submitted to the Department under the Determination of Need Law (Chapter 766 of the Acts of 1972). The purpose of the legislation is to prevent unnecessary new construction, or expansion, of health care facilities, and to avoid wasteful duplication of services, facilities and equipment.

In 1973-1974, the Office reorganized its staff to improve the review of projects, and implemented new regulations. These streamlined the review process and resulted in a four-month "turn-around" cycle from the time an application is submitted to action by the Public Health Council, a marked reduction from the previous year. The Department also took initial steps to establish a fair and equitable filing fee schedule.

HEALTH PLANNING AND STATISTICS

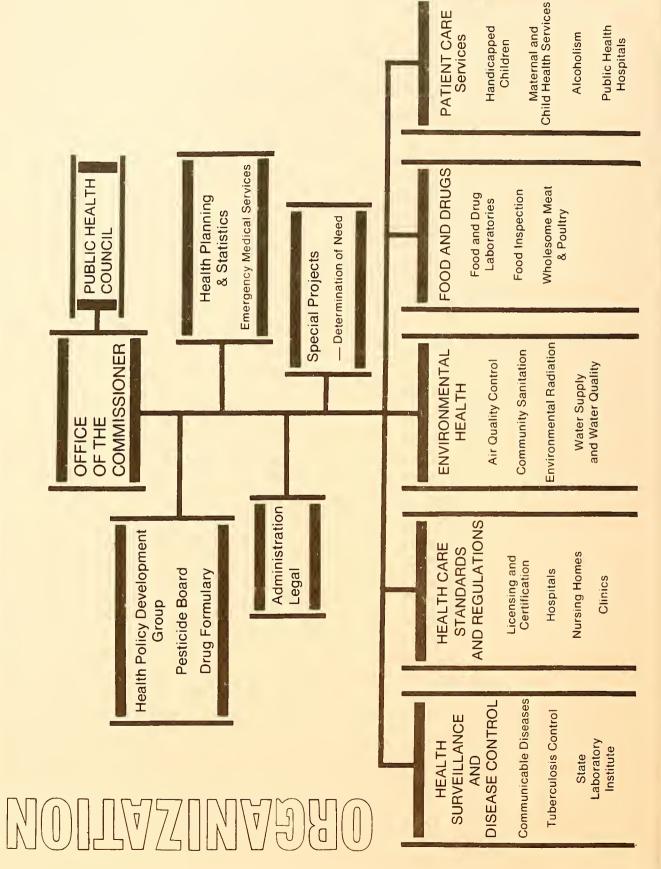
Created last year, the Office of Health Planning and Statistics now includes the Vital Statistics Program, and serves as the site for the Cooperative Health Statistics System (CHSS), a program of the National Center for Health Statistics (HEW). In its second year of operation, the Office was able to record the following accomplishments:

- Processed, analyzed and published Public Document No. 1, the Annual Report of Vital Statistics, for calendar years 1969, 1970 and 1971.
- Initiated a redesign of the birth certificate to correct deficiencies of content and format.
- Began a program to collect comprehensive statistics on six major classes of health facilities within the Commonwealth, the first systematically developed data collected by the State for planning purposes.
- Coordinated a survey of 11,000 patients in nursing homes, rest homes and chronic hospitals to identify the characteristics that distinguish these facilities.
- Developed an experimental discharge-abstract program for home health agencies and tested the form in 17 volunteer agencies.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1973 – JUNE 30, 1974

HEALTH PROGRAMS		STATE	FEDERAL	TOTAL
HEALTH CARE STANDARDS	S AND REGULATIONS	\$ 2,396,545.13	\$1,216,267.69	\$ 3,612,812.82
ENVIRONMENTAL HEALTH		1,985,371.01	879,515.18	2,864,886.19
HEALTH SURVEILLANCE A	ND CONTROL			
Communicable Diseases		1,743,625.14	424,486.40	2,168,111.54
Division of Food and Drugs		1,751,112.03	65,270.64	1,816,382.67
State Laboratory Institute		3,255,127.46	257,716.89	3,512,844.35
Tuberculosis Control		4,088,734.94	107,858.02	4,196,592.96
DIRECT MEDICAL SERVICE	S			
Alcoholism	_	3,728,068.60	653,861.63	4,381,930.23
Family Health Services		4,425,327.63	1,451,755.33	5,877,082.96
Regional Offices		362,288.01	629,306.80	991,594.81
Hospitals		36,121,207.72		36,121,207.72
Lakeville	4,161,807.88			
Lemuel Shattuck	9,004,591.12			
A. Research Program Chronic Hepatitis	79,471.20			
Mass. Hospital School	3,460,571.35			
Pondville	3,773,995.00			
A. Cancer Research Project	62,792.18			-
Rutland Heights	3,484,563.22			
Tewksbury	9,104,341.77			
Western Massachusetts	2,989,074.00			
COMMISSIONER'S OFFICE		898,310.56	1,213,157.98	2,111,468.54
FINAL TOTALS DEPARTMENT	NT AND HOSPITALS	\$60,755,718.23	\$6,899,196.56	\$67,654,914.79

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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH June 30, 1975

William J. Bicknell, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

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meeting needs

The year that ended on June 30, 1975, was a trying period that placed great burdens on the entire personnel of the Department of Public Health. Faced with reduced funds, Division staffs had to devote an increasingly larger proportion of their time to drawing up, reviewing and revising their budgets to meet the demands and requirements of the Legislature. Cuts in personnel, lack of funding to fill needed positions, and cutbacks in services strained the energies of the Department. Uncertainty about the future of some units and hospitals created additional problems for staff and Division heads.



Despite these difficulties, the Department carried out its responsibilities to the people of the Commonwealth by providing essential services in its three major areas of responsibility:

*Health Protection, which encompasses:

Health Surveillance and Disease Control — to guard the health of the people of the Commonwealth and to control disease through testing, vaccination, treatment, analysis of disease trends and assessment of threats to the population.

Environmental Health — to restore and preserve the integrity of the environment through the control of pollution of the air, water and land.

Food and Drugs — to regulate the quality and safety of consumer products, food and drug processing.

- ★ Health Regulation to regulate the quality and safety of health care facilities through licensing, certification and inspection; through the administration of the Determination of Need Program; and through planning and the collection of statistical data.
- ★ Health Services to provide direct health services through the seven public health hospitals, through the Department's alcoholism program, and through services to mothers and children.

In August 1974, former Governor Francis W. Sargent appointed a Commission on Nuclear Power to investigate hazards associated with the nuclear power industry and to ensure that all present and future nuclear power facilities in the state present a minimum danger to its citizens. The Nuclear Task Force was assigned to the Department as a special project with Commissioner Bicknell serving as an ex-officio member. The members of the Commission, which was chaired by George W. Rathjens, Ph.D., Department of Political Science, Massachusetts Institute of Technology, represented a variety of fields, and were chosen for their professional competence in nuclear technology and for their public concern. Charles M. Spooner, Ph.D., a nuclear geochemist, directed the work of the Commission.

Public hearings were held during the latter part of April 1975, both in Boston and in the Amherst-Springfield area, to assess the feelings of the public on the development of nuclear power. The final report of the Commission will be available in the early fall of 1975.

This 61st Annual Report* is a brief accounting of the activities of the Department of Public Health at a time of budgetary problems throughout the Commonwealth. The Department was able, despite the restrictions and understaffing, to meet the most pressing needs of the people of the Commonwealth through careful utilization of the resources available.

* In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

HEALTH SERVICES



One of the major functions of the Department of Public Health is the provision of direct health services that are not provided by the private sector. Primary services include: hospital care through the seven departmental hospitals, detoxification and rehabilitation of alcoholics through the Department's community-based alcoholism program, and services to mothers and children through Family Health Services.

ALCOHOLISM PROGRAM

The Division of Alcoholism, working under the broad authority of the Comprehensive Alcoholism and Rehabilitation Act of 1971, expanded its program of treatment, rehabilitation and prevention of alcoholism. The operation of 20 detoxification facilities, with 460 beds, brought the Division close to the state goal of 500 beds throughout the state. At the same time, six new 20-bed halfway houses were established; this brought to 29 the number of houses supported by the Department. Admissions to halfway houses by the end of the fiscal year had reached about 3 150 admissions.

Other programs of the Division included:

- *Support to 21 community-based alcoholism clinics for treatment and counseling. The Division developed a new model for these clinics with emphasis on outreach activities.
- * Consultation and technical assistance to hundreds of regional, area and local groups.
- * An interagency agreement with the Department of Public Welfare to allow federal reimbursements of the Division's costs for services rendered to welfare recipients.
- * Expanded educational programs to prevent and control alcoholism and the abuse of alcohol, with special attention to working with young people in school and other settings.
- * Development of a Management Information System to include weekly caseload and utilization figures for detoxification centers, halfway houses and outpatient clinics.

HOSPITALS

Despite understaffing and cutbacks in funds, the Department's seven hospitals did provide a broad range of clinical services to meet the needs of patients with long-term but remediable disabilities. The Department extended its basic preventive and protective services to segments of society that do not usually fall within the purview of private medical resources. The hospitals' services and programs are briefly summarized:

- ★ Lakeville Hospital continued to work for a regionalized system of comprehensive services for all handicapped individuals, especially those living in southeastern Massachusetts. The Renal Dialysis Unit, which opened in 1969 with three patients and operated one shift five days a week, was operating on three shifts, six days a week. The Unit is now able to take care of about 50 patients.
- ★ Lemuel Shattuck Hospital increased its services to clients of the Department of Correction and of the Department of Mental Health. At the request of the Governor, the hospital began negotiations with the two state agencies that led to increased services for all patients.
- * The Radiation Therapy Division of the Pondville Hospital was able to provide enhanced services to its patients when its Betatron 45-million electron volt (MEV) linear accelerator, the most powerful radiological weapon now in use in the treatment of cancer, became operative. The Nuclear Medicine Division also received all of its equipment, which enabled it to increase its activities.

- * Rutland Heights Hospital participated in a consortium of five agencies called the Public Inebriate Program. Three and one half positions were assigned to the hospital and funded through Catholic Charities. The program at the hospital aimed to determine whether the 30 percent of the alcoholics who did not benefit from a rehabilitation program might have been helped.
- * Tewksbury Hospital provided, on a continuing basis, practical training to students from the Lowell State College Nursing Program, and from the Lowell Trade School Practical Nursing Program. Students from Northeastern University received experience in the hospital's physiotherapy and occupational therapy departments.
- * Western Massachusetts Hospital opened a 20-bed Pediatric Unit for the multiply handicapped child on June 2, 1975. Existing hospital staff provided nursing and social services, occupational therapy and recreational therapy. An Adult Care Program, which began in the spring of 1975, provides therapy for patients who require intensive rehabilitation care, but who are able to live at home.

The seven hospitals, with an actual operating capacity of 1,837 beds, admitted 6,634 patients during fiscal 1975. The percent of occupancy at all the hospitals showed a significant increase over the previous year; the rate ranged from 81.2 at Pondville to 103.2 at Tewksbury. The average length of stay varied from 19 days at Pondville to 240 days at Massachusetts Hospital School. The number of outpatient visits continued high -43,960 (Table 1).

As part of the total public health effort, the Department's hospitals were used more extensively to develop and implement programs for the training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts Hospitals, through their accredited schools of practical nursing, graduated about 150 licensed practical nurses.

The hospitals provide the following services:

Hospital	Services
Lakeville	Comprehensive rehabilitation and education for handicapped children, rehabilitation for physically handicapped adults, chronic renal dialysis.
Lemuel Shattuck	Medical and surgical care of chronic illness, emphasizing pulmonary disease care, renal dialysis, chronic alcoholism and vascular programs.
Massachusetts Hospital School	Education and vocational training coupled with medical and surgical care of physically handicapped but intellectually able children.
Pondville	Multimodality treatment of cancer in adults and children.
Rutland Heights	Long-term hospitalization and rehabilitation of adults with chronic diseases or alcoholism.
Tewksbury	Medical and surgical care of chronically ill and severely handicapped adults; alcoholism program.
Western Massachusetts	Long-term care of chronic illnesses in adults, rehabilitation and alcoholism programs. Medical and surgical care of

The hospitals continued their inservice training, conducted seminars, participated in broadly sponsored programs, and engaged in research, especially in the areas of cancer, heart disease and stroke.

multiply handicapped children.

Table 1 PUBLIC HEALTH HOSPITALS
YEARLY CENSUS SUMMARY — JULY 1, 1974 - JUNE 30, 1975

	Operating Capacity	Admissions	Discharges	Average Daily Census	Percent of Occupancy	Average Length Of Stay	Outpatient Visits	Total Patient Days
Lakeville	130	377	354	111	85.4	81	3,314	40,249
Lemuel Shattuck	163	2,398	2,243	160	98.0	22	8,881	53,962
Mass. Hospital School	175	202	224	147	84.0	240	975	53,353
Pondville	80	1,223	1,008	65	81.2	19	16,858	23,859
Rutland Heights	160	639	634	136	85.0	40	6,449	45,165
Tewksbury	730	660	430	753	103.2	76	0	271,850
Western Mass.	99	882	849	86	86.9	36	7,483	31,611
Totals	1,837	6.634	6,468	-	_	_	43,960	604,154

FAMILY HEALTH SERVICES

Improved health services to mothers and children in the Commonwealth, remained an important aspect of the Department's total effort to upgrade community health. Through the Division of Family Health Services, it carried out programs aimed to reduce infant and maternal mortality, to promote maternal and child health, and to evaluate and treat handicapped children.

Maternal and Child Health

After a lapse of two years, the Department was once again the grantee of funds under the Maternal and Infant Care Project and the Children and Youth Projects. Federal funds made possible the expansion of MIC programs through neighborhood health centers in the Greater Boston Area. These clinics offered comprehensive prenatal and postpartum care to mothers who constitute a high risk from a medical or socioeconomic point of view.

Through the Children and Youth Projects, medical and dental screening, diagnosis, treatment and preventive services were made available to preschool or school-age children and youth. New projects included an intensive care transfer nursery at the Western Massachusetts Hospital Medical Center in Springfield, and a family-planning service in Lowell.

Closely related to the MIC and C&Y projects, the Women, Infants and Children's Program (WIC) was again administered by the Department. Grants to three neighborhood health centers provided supplemental foods to pregnant or nursing women, and to infants and children up to four years of age who were considered to be nutritional risks.

Other Family Health Service projects, which expanded during the year, included: aid to the hard of hearing, vision conservation, rheumatic fever prevention, epilepsy control, aid to children with cystic fibrosis or hemophilia, premature birth programs for wed and unwed mothers, and school health programs.

Handicapped Children's Services

The Department opened three new integrated preschools for handicapped and able bodied children: East Mountain Preschool in Westfield, the Flagg Street Preschool in Worcester, and the Cape Cod and the Islands Child Developmental Programs. Enrollment at the six preschools reached 210.

The identification of handicapped children at an early age so that they may have an opportunity to develop to their greatest potential remains a primary goal of the Department. The Services to Children with Multiple Handicaps completed its first full year of operation and expanded its services to include homemaker care, residential care in pediatric nursing homes, home-based therapies and developmental day care to meet the individual needs of each child. About 300 multiply handicapped children and their families received assistance through evaluation, planning and special programs appropriate to their needs.

COMMUNITY HEALTH

Providers of health care throughout the state receive support through the Department's programs in laboratory services, throat culture examination, children's services, and the loan of vision and hearing equipment. These and other health services are the responsibility of the Division of Local Health Services, which carries them to the consumer at the local level through its four regional offices. The Central Office and the regional offices helped local boards of health, other official and voluntary health agencies and the general public either by education, consultation or by direct assistance in local programs. These included school and personal health services, the application of the State Sanitary Code, prison inspections, and certification of migrant labor camps.

Only a few activities of each regional office in the past year can be mentioned:

- * Central Region The major emphasis on the part of the nursing advisors has been on inservice education, recruitment of public health nursing supervisors, and on group consultation. The nursing advisors continued to work with local community health agencies to promote mergers of small agencies or regionalization of nursing services.
- *Northeastern Region In cooperation with the Regional Office staff, the Lowell Human Services Corporation established an Early Childhood Development Team. Housed in the Regional Office, the team is available to families of children, from birth to age three, who are developmentally delayed, or who have mental or physical conditions that may produce a delay in normal growth patterns.
- *Southeastern Region Through the efforts of the Regional Office, 26 communities established screening programs for the detection of children with elevated blood levels. In the past year, about 750 children were screened. Many hospitals and pediatricians are now screening on a routine basis.
- *Western Region The Social Service staff initiated a genetic counseling clinic at the Regional Office that has broadened the services of the Handicapped Children's Program. Physical therapy staff established a scoliosis training program for school health personnel. As a result, three school systems incorporated scoliosis screening into their health programs.

HEALTH PROTECTION

HEALTH SURVEILLANCE AND DISEASE CONTROL

Within the area of health surveillance and disease control are the classic core activities that are and must remain the direct responsibility of the state. These activities are primarily carried out in three related sections of the Department: Communicable and Venereal Diseases, Tuberculosis Control and the State Laboratory Institute.

COMMUNICABLE DISEASE CONTROL

The effects of the mass immunization programs carried out 1973. by the Department in 1973 in communities with low immunization were reflected in the number of reported cases of measles in 1974. The number of cases dropped from 3,953 other six immunizable diseases all showed increases over 1973: in 1973 to 416 cases in 1974, a reduction of 89 percent.

The statewide immunization programs continued to record progress in controlling mumps and rubella:

- * Mumps down from 9,024 in 1965 to 1,118 cases in 1974, a drop of 88 percent.
- * Rubella down from 1,471 in 1969 to 385 in 1973, a drop of 74 percent.

During the calendar year 1974, the Division began to substitute biviral and, later, triviral vaccines for the individual monovalent vaccines of measles, mumps and rubella. The following dosages of vaccine were administered:

*Measles			 	143,408
*Mumps			 	167,767
*Polio			 	623,078
* Rubella			 	173,660
* Measles/	Rubella		 	56,181
* Measles/	Mumps/F	Rubella	 	32,031

Massachusetts has been on a maintenance immunization program against polio since polio vaccine became available. As a result of the statewide programs, not a single case of polio has been reported in the Commonwealth since 1968. A School Immunization Survey of children entering kindergarten or grade one in September 1974 showed that 92.04 percent had already received polio vaccine, as compared to 86.2 percent in

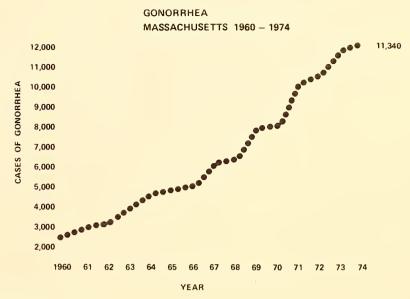
The percentages of these children immunized against the

Diphtheria		Measles	93.53
Tetanus	DTP 93.51	Mumps	69.19
Whooping Cough		Rubella	70.41

The prevalence of other preventable infectious diseases in the state remained low. Only 11 cases of whooping cough were reported in 1974. There were no reported cases of diphtheria, smallpox or tetanus.

Rabies in Massachusetts was a rare occurrence prior to 1961, when a rabid bat was detected. The previous case of reported rabies had occurred in 1949 in a ground animal. The Division of Communicable Diseases had warned that it was only a matter of time before rabies in ground animals would reappear in Massachusetts since the surrounding states had reported cases in dogs, cats, farm animals, foxes and skunks. In 1974, one rabid skunk was found in Fort Devens. The low incidence of rabies in the state is attributed to the program of pre-exposure immunization of highly susceptible groups, inauguration of dog immunization clinics conducted annually by local boards of health, and educational programs for school-age children.

Table 2



VENEREAL DISEASE PROGRAM

Of the 14 sexually transmissible diseases, five — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes and genital warts — are epidemic in Massachusetts and in the nation. The 11,340 cases of gonorrhea reported in the calendar year 1974 in the Commonwealth represented a slight 0.5 percent increase over 1973, but an alarming 204.4 percent increase over the 3,725 cases reported in 1963. The estimated number of gonorrheal infections was 83,160. This figure is based on a survey indicating that only 12 percent of treated cases of gonorrhea are reported (Table 2).

For the calendar year 1974, primary and secondary syphilis showed a decrease of 16 percent from 1973: 763 cases in 1973 down to 640 in 1974. Early latent syphilis declined by 15 percent.

The Department's program for the screening of asymptomatic females for gonorrhea continued with the renewal of a federal grant for \$394,007. This permitted the hiring of five workers to complete the staffing of the Gonorrhea Program at the Division of Diagnostic Laboratories. Support was provided to 13 hospitals and private laboratories to assure proper coverage of the state beyond the Metropolitan Boston Area.

Approximately 100 facilities or individuals — neighborhood health centers, family planning clinics, student health services, other community-based clinics and private physicians — participated in the program. During fiscal year 1975, the program examined 159,312 women by culture, of whom 5,251 were found positive, a positivity rate of 3.3 percent.

The Division supported five nurse-epidemiologist positions to augment epidemiologic services throughout the state — four hospitals in the Greater Boston Area, and one in Fall River to provide coverage for the Cape Cod Area.

TUBERCULOSIS CONTROL PROGRAM

The entire Tuberculosis Control Program has, in the ten-year period from 1965-1975, worked on developing some of the most modern care and treatment facilities and services for tuberculosis in the nation. Through the use of selected general hospitals for ambulatory and short-term inpatient care, and the development of a network of outpatient facilities in community general hospitals, the Program was able to achieve a dramatic reduction in hospital admissions and in the average length of stay. Patients are now able to obtain high quality treatment on an ambulatory basis for the greater part, or all, of their prescribed regimen.

During this ten-year period, the number of new cases of tuberculosis, reported annually, dropped one-third: 977 in 1965 to 649 in 1975. The total number of hospital admissions and the average length of a patient's hospital stay declined by almost two-thirds during the same interval. An even more dramatic achievement was the reduction in the total number of patient days by 85 percent.

care institutions from tuberculosis hospitals to chronic disease and to communities that faced referendums during the year. hospitals. As a result of the reclassification, the three institutions were able to recover payments from Medicaid, thus reducing the expenditures of the Program.

Children's Hospital Medical Center, Boston. Tuberculosis care water rose to 22 percent.

was phased out at the Department's Western Massachusetts Hospital after almost half a century, as a result of the successful inpatient tuberculosis care programs at the Springfield Hospital Medical Center and the Berkshire Medical Center.

The Division continued to contract with, and provide support and direction to, 50 cooperating tuberculosis clinics across the state. A total of almost 50,000 visits by patients to these clinics occurred during the year. This represents a substantial increase over the approximately 12,000 visits for which the Department provided reimbursement ten years ago.

The modern treatment programs initiated by the Tuberculosis Control Program have been of enormous benefit not only to the patient who is able to return to his home and job earlier, but to the Commonwealth in terms of saving millions of dollars in substituting relatively inexpensive outpatient services for costly inpatient care.

FLUORIDATION PROGRAM

The Fluoridation Project continued its program of education throughout the state. Through exhibits, pamphlets, An important achievement of the Tuberculosis Control other written material and seminars, the Project helped to Program was the change in classification of three long-term bring the message of fluoridation to students, citizen groups

During fiscal 1975, the Towns of Westborough and North Andover and the City of Fitchburg began fluoridating their water supplies, to bring to 54 the number of communities in The Department opened two new short-term tuberculosis Massachusetts with fluoridated public water supplies. The inpatient programs at the Lowell General Hospital and at the percentage of the state's population receiving fluoridated

STATE LABORATORY INSTITUTE

The State Laboratory Institute, through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, continued to provide many services to the Commonwealth, despite reductions in budget and personnel:

- *Production and distribution of serums and vaccines for use throughout the Commonwealth
- * Performance of a variety of tests on approximately three-quarters of a million specimens for clinical diagnostic purposes
- **★** Diagnosis of rare and exotic diseases
- *Laboratory back-up services for quality control
- * Fiesearch

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories maintained its production and distribution of vaccines, toxoids and human DIAGNOSTIC LABORATORIES plasma products at an adequate level despite cuts in budget and reduction in personnel. The Biologic Laboratories were able to boost production in part by increases in efficiency, in part by reductions in developmental research. The latter measures, however, threaten the position of leadership long held by the laboratories.

Distribution of smallpox vaccine was discontinued in response to recommendations from the Center for Disease Control that use of the product be sharply limited. A large of hospital blood banks, of laboratories performing marital stockpile of the vaccine is kept on hand in the event of an and prenatal blood tests for syphilis and of laboratories in the outbreak of the disease.

Developmental research on biologic products and processes continued on a reduced level. The Division placed greater emphasis on increased efficiency by introduction of larger production modules and improved instrumentation, by use of fermenters for growth of bacteria, and by efforts to obtain elimination of outmoded regulatory requirements. Other developments during the year included:

- ★ Tetanus Toxoid Cooperative evaluation studies were initiated on a more concentrated tetanus toxoid designed for single-injection, primary immunization.
- * Hepatitis Immune Globulin Evaluations of hepatitis immune globulin were continued in large-scale field studies.
- * Bh. Immune Globulin The number of doses distributed to 60 hospitals in Massachusetts with maternity services was 6,019. These hospitals and all licensed clinics and hospitals performing abortions received a questionnaire to estimate the utilization rate of Rh immune globulin. The excellent response will help determine the progress made toward the elimination of erythroblastosis fetalis in the state.

The Laboratory Improvement Program, working with smaller staff and funds, reduced its proficiency testing program in four areas but expanded its educational activities. During 1974-1975, the Program evaluated 332 local laboratories for the performance of one or more specified test categories.

The Program remained responsible for proficiency testing Medicare program.

Table 3

Diagnostic Laboratories Metabolic Disorders Laboratory

July 1974 - June 1975

A.	Routine Specimens	Total
	Umbilical Cord Blood	66,983
	Newborn Blood	70,294
	Urine	50,558
	Follow-up Blood	210
		188,045
В.	Other Specimens	4
	"Special" Blood	1,008
	Repeat Newborn Blood	1,094
	"Special" Urines	884
	Repeat Newborn Urines	961
	Parent Specimens	306
		4,253
Total Number of Specimens		192,298
Tota	Number of Tests Performed	899,315

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism. The total number of tests performed was approximately 900,000 (Table 3).

A data processing system for the Department's comprehensive newborn metabolic disorders screening program was developed with the support of a grant from the Tri—State Regional Medical Program, and with consultants from the Arthur D. Little Company and from the Department's Data Processing Division. Hospitals throughout the Commonwealth now receive a general numerical number of specimens sent to the Laboratory and tested. These numbers can be compared with the number of infants born to give the hospitals and the Department an accurate analysis of whether or not all babies are being tested.

Bacteriology Laboratory

Aithough the Throat Culture Program, on January 1, 1975, was restricted to children 12 years of age and under, the total number of all specimens examined in the Bacteriology Laboratory decreased by only three percent. This resulted from an increase of 26,795 gonoccal cultures and a small but significant increase of 600 in referred cultures.

Virus Laboratory

Despite reductions in virus diagnostic services, including rubella immunity testing, the Virus Laboratory continued to provide professional consultation and the specialized type of laboratory services that are unavailable elsewhere in the Commonwealth. Congenital diseases associated with rubella herpes, cytomegalic virus and toxoplasma remained at about the same level as that reported in the previous year. The number of suspected cases, however, increased slightly from 249 to 273.

The overwhelming epizootic of arbovirus infections (eastern and western equine encephalitis) of 1973—1974 produced a broader and improved surveillance program at both the Encephalitis Field Station and the Laboratory. Three human cases of eastern equine encephalitis occurred in August 1975. All three persons suffered severe and irreversible brain damage and died over the past year. The Department undertook control measures and began spraying operations that were effective in reducing the mosquito population.

ENVIRONMENTAL HEALTH

Under the provisions of Chapter 806 of the Acts of 1974, the Division of Environmental Affairs is scheduled to become part of the Executive Office of Environmental Affairs on July 1, 1975. In its last year within the Department of Public Health, the Division continued its activities in controlling pollution of the air, water and land.

Water Supply and Water Quality

The Bureau of Water Supply and Water Quality, which is responsible for the environmental engineering aspects and surveillance of approximately 350 municipal water supply systems, began planning its activities under provisions of the Federal "Safe Drinking Water Act" passed by Congress in December 1974. Under the law, the Environmental Protection Agency would develop nationwide standards to be administered and enforced by the individual states.

To ensure a suitable bacterial quality of shellfish that reach the public and to prevent diseases such as hepatitis, typhoid and gastrointestinal disturbances, the Bureau carried out sanitary surveys, classifications and reclassifications of over 171 shellfish areas along 2,200 miles of Massachusetts coastline.

The paralytic shellfish poison (PSP) monitoring program, which had been instituted as a result of the PSP episode in the fall of 1972, uncovered two blooms of *Gonyaulax tamarensis*, the causative toxin of PSP, one in September 1974 and the other in May 1975. In both instances, the toxin concentration accumulated by the shellfish along the North Shore forced closure of the harvesting grounds from Gloucester to the New Hampshire line for extended periods.

Air Quality Control

The Bureau of Air Quality Control continued its efforts to carry out the provisions of the Massachusetts State Implementation Plan (SIP) to the National Clean Air Act of 1970. Monitoring activities increased substantially at the 57 stations throughout the state. Ambient levels of sulfur dioxide and of particulate matter continued to show decreases. Plans have been developed to reduce the levels of carbon monoxide and oxidants in those areas where they were above standards.

An increasing aspect of the Bureau's work has been its concern with the economic impact of air pollution control regulations. Legislative passage of Chapter 494 of the Acts of 1974 requires a review of these regulations to minimize their economic effect while maintaining ambient air quality standards. The initial review centered on the sulfur content of residual fuels burned in the Metropolitan Boston Air Pollution Control District. Changes in the regulations to permit the use of higher sulfur fuels would result in a fuel cost savings of \$30,000,000 annually.

Enforcement activities of the Air Quality Control Program relative to industrial emissions were very successful during the year. More than 90 percent of the major sources, those emitting more than 100 tons per year of an air pollutant, reached the compliance date of May 31, 1975.

The Bureau received \$1,200,000 from the Environmental Protection Agency for the expansion of enforcement activities, the monitoring network, data management and of personnel resources.

Community Sanitation

Changes in the living habits of the people of the Commonwealth have greatly increased the burden of the Bureau of Community Sanitation, which is responsible for the elimination of public health problems and nuisances created by the operation of insanitary waste disposal practices and facilities. The literal mountains of solid waste produced daily have created conditions of crisis in many parts of the state. To solve this problem, the Bureau has cooperated with the Bureau of Solid Wastes of the Massachusetts Department of Public Works and with other state and local regulatory agencies.

The Bureau Received many requests for advice and assistance on the control of rats, bats, mosquitoes, flies, roaches and other insects. Since the control of such animals and insects goes beyond the activities of the Division of Environmental Health, the Division is represented on the State Reclamation Board, the Mobile Home Study Commission, the Merrimack River Sewage Technical Committee, the Eastern Massachusetts and Metropolitan Boston Area Technical Study Committee, and the Cape Cod Area Technical Sewage Study Committee.

Environmental Health Laboratories

The Lawrence Experiment Station and three district laboratories — at Amherst, Lakeville and Tewksbury — provide the laboratory services for the Division of Environmental Health. When the Lawrence Experiment Station, one of Massachusetts' great contributions to public health, is transferred to the Department of Environmental Quality Engineering on July 1, 1975, it will terminate an association of 89 years, first with the State Board of Health from 1886 to 1914, then with the Department of Public Health from 1914 to 1975.

In the past year, the environmental health laboratories performed tests on the following samples:

Bacteriological	29,847
Chemical (Water Supply)	10,873
Chemical (Water Pollution)	2,606
Radiological	1,963
Air Analyses	11,134
Paralytic Shellfish Poison Bioassays	1,345
Biological	2,082
Special Chemical (Pesticides, Oils	
Toxic Metals)	874

This represents a seven and one-half percent increase in the number of samples examined over the previous year.

Total

60,724

Using a fluorospectrophotometric method developed at the Experiment Station, the Department's scientists screened over 1,800 public water supply sources to determine the trace organic concentrations in Massachusetts drinking water. The availability of the rapid fluorescence method (RFM) permitted Massachusetts to become the first state to embark on a concerted testing program for the concentration of trace pollutants in the state's drinking water.

The United States Environmental Protection Agency funded for an additional year a research study to evaluate the efficiency of granular activated carbon in removing trace organics from finished drinking water. The research project has produced important background information that will be extremely useful in confirming the intrusion of organic chemicals into the sources of water.

The Department, through its Certification Program for Water Bacteriology, has approved 68 public and private water laboratories, and 54 have been granted approval for Water Chemistry. During the past year, the Department inspected 41 laboratories and granted certificates to three new laboratories.

DRUG SAMPLES SUBMITTED TO BOSTON LABORATORY FOOD AND DRUGS

FOR CHEMICAL ANALYSIS

Table 4

The Division of Food and Drugs is charged with the				
responsibility of protecting the consuming public from the				
detrimental effects of chemicals, adulterated foods, unsanitary				
bedding and upholstery. The Division is also responsible for				
the licensing of vending machines, cold storage warehouses,				
upholstered furniture, stuffed toys; the licensing of				
manufacturers of narcotic drugs and establishments that use				
animals for experimental purposes; the licensing of				
slaughterhouses and meat and poultry establishments.				

During the year, the Division worked to maintain established programs at acceptable levels, and to support legislation and regulations that would improve the health and welfare of Massachusetts consumers. Three important legislative changes supported by the Department did not receive the approval of the Legislature, but will be re-introduced in the next fiscal year. These proposals dealt waters. with: 1) the transfer of licensing authority over seafood processing plants and retailers from the Division of Marine Fisheries to the Division of Food and Drugs; 2) a change in the labeling of fluid milk products to comply with federal requirements, and to allow reciprocal inspection services among the various states; 3) the licensing and control of all salvage operators.

Two basic, far-reaching regulations relative to the retail sales of meat that had been prepared by the Division were promulgated: The first standardized the names of the cuts of meat to be sold in all retail outlets in the Commonwealth. The second established standards for ground beef.

Fiscal Year	Samples
1970	30,048
1971	
1972	46,748
1973	38,962
1974	34,790
1975	37,348

The New Bedford Seafood Laboratory participated in a special study to determine the freezing capabilities of flounder and sand dabs. Results of the study, which showed the high freezing capabilities of the sand dab, will result in a better utilization of the seafood available in Massachusetts coastal

An expanding area of responsibility of the Division is the safe distribution of drugs. The increased use of illicit drugs has put an additional burden on the Division, which conducts analyses of drugs, as well as of liquors and poisonous substances, for the Department of Agriculture, the Alcoholic Beverages Control Commission, the Department of Natural Resources, and for local and state law enforcement agencies.

During the past fiscal year, the Drug Analysis Section analyzed 37,348 samples, an increase of 2,558 samples over the previous fiscal year, and an increase of 7,300 samples over those submitted in 1969-1970 (Table 4).

HEALTH REGULATION



Through its programs of standard setting, inspection, licensure and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has responsibility for preventing unnecessary expansion of health care facilities.

HEALTH CARE STANDARDS

The Division of Health Care Standards, one of the regulatory arms of the Department, is responsible for enforcing the criteria for licensure or certification in a health care system that includes more than 2,000 health facilities—hospitals, nursing homes, rest homes, clinics and infirmaries, and independent laboratories. It is also responsible for the inspection of all diagnostic and therapeutic X-ray units in hospitals, private offices and departments of nuclear medicine.

The specialized Long-Term Care Facilities Program of the Division surveyed approximately 185 hospitals, 600 nursing home facilities, 110 independent laboratories, and 161 home health agencies for the Medicare and Medicaid programs. The program also certified professional groups such as chiropractors and physical therapists who participate in the Medicare program.

As a result of the activities of the Periodic Medical Review Program, the Department is now in full compliance with the federal requirement to perform periodic medical reviews on patients in Level II nursing homes. The purpose of the on-site reviews is to determine the quality of care and appropriateness

of placement of all Title XIX Medicaid patients. Between January 1974 and December 1975, the Division recommended the transfer of 18 percent of 7,522 patients in 210 Skilled Nursing Facilities to a lower level of care.

The Department also began the federal certification process of 426 Intermediate Care Facilities under the Medicaid program. Of this number, 390 were certified as in compliance with federal requirements by May 1975. Decertification proceedings were initiated against those nursing homes not in compliance, a significant step toward improving the quality of care in nursing homes.

Radiation Control

The activities of the radiological health specialists in the Radiation Control Program help to insure compliance with the Department's program to control hazards from ionizing and non-ionizing radiation sources. With the exception of color television receivers, more than 13,000 sources of radiation in the state — in hospitals, educational institutions and in the offices of physicians, dentists, podiatrists, chiropractors and veterinarians — are subject to routine inspection. The program does, however, survey colored television receivers, microwave ovens and supermarket laser checkout systems on a request basis.

The Radiation Control Program also collected data on the number of diagnostic procedures, such as radiographic fluoroscopy, CAT brain scans, pneumoencephalograms, cerebral angiograms, and radionuclide brain scans. A review of the data showed a large increase in the last three procedures. The Program continued to monitor the field of radiation oncology to determine the number of new patients, the total number of treatments given, and the availability of treatment planning.

HEALTH FACILITIES AND DEVELOPMENT

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for all determination of need activities in the state. The purpose of the legislation was to prevent unnecessary building of new, or expansion of, existing health facilities, and to avoid wasteful duplication of services and facilities. The legislation also sought to ensure easy access to, and good quality of, health care and to control spiraling health costs.

The Office of Health Facilities and Development reviews all applications for construction or expansion of a health care facility, or purchase of equipment, that entail a capital expenditure of \$100,000 or more. In 1975, the Public Health Council acted upon 164 applications, of which 22 were denied, and 19 withdrawn. The estimated cost savings on hospital, nursing home and clinic beds came to \$74,804,000.

New Regulations adopted by the Department made improvements in the Determination of Need process:

- * Change in the filing schedule for applications not directly concerned with medical care to permit filing at any time.
- * Reduction of the filing fee to a fair and equitable level.
- * Establishment of appeal procedures to the Public Health Council.

HEALTH PLANNING AND STATISTICS

The Office of Health Planning and Statistics is responsible for the collection of data on vital events, health facilities and long-term care for the Department. In its third year of operation, the Office recorded the following accomplishments:

★ Processed and analyzed data and published Public Document No. 1, the Annual Report of Vital Statistics, for calendar years 1972 and 1973.

- * Published the *Health Data Annual*, a statewide compilation of regional health-care data, prepared from annual reports submitted by nursing homes, hospitals and home-care agencies.
- * Provided basic data for information-and-referral directories of health facilities published by voluntary agencies.
- * Published Waiting-Time Study, an investigation of hospital patients awaiting discharge, and of the time required for their placement in facilities after discharge.

OFFICE OF EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS) works with providers and consumers throughout the Commonwealth to improve the quality of the emergency care available to persons seriously ill or injured. Supported primarily by a federal Emergency Medical Services grant of approximately \$1.9 million, OEMS continued its efforts to upgrade resources and to establish local and statewide emergency medical services networks:

- * Trained over 2,000 ambulance operators and attendants as emergency medical technicians.
- * Worked with a task force of technical experts to draft regulations that were promulgated by the Public Health Council in February 1975.
- ★ Initiated the pilot test of the Massachusetts Ambulance Run Reporting System (MARRS) with 60 ambulance services.
- * Worked closely with physicians, nurses and hospital administrators, through their Area EMS Hospital Committees, to secure hospital/medical leadership in the development and implementation of medically-sound local and statewide EMS systems.

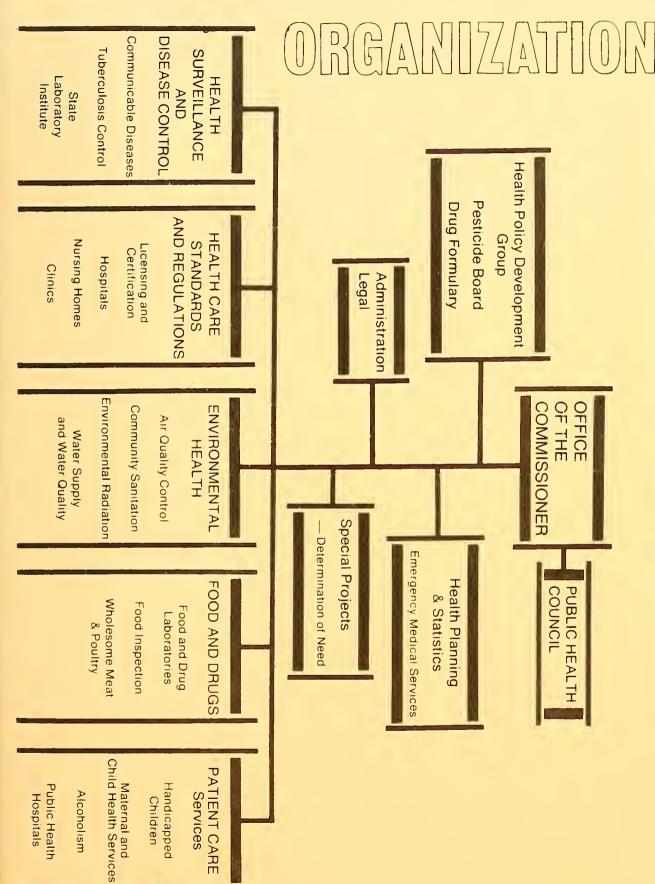
EXPENDITURE REPORT

DEPARTMENT OF PUBLIC HEALTH

JULY 1, 1974 - JUNE 30, 1975

HEALTH PROGRAMS		STATE	FEDERAL	TOTAL
CENTRAL OFFICE				
1. Administration		\$ 830,586.07	\$1,146,080.76	\$1,976,666.83
2. Long Term Care Information Syst	em	701,534.88	7,457.00	708,991.88
				· ·
HEALTH REGULATIONS				
1. Medical Care		1,564,304.41	1,123,568.92	2,687,873.33
2. Certificate of Need		60,299.55	67,921.11	128,220.66
3. Dental Health		81,737.06	24,114.20	105,851.26
4. Hospital Facilities		302,555.62	66,493.13	369,048.75
HEALTH PROTECTION				
1. Environmental Health		2,261,023.08	1,203,839.50	3,464,862.58
2. Tuberculosis Control		4,077,375.17	100,795.76	4,178,170.93
3. Communicable/Venereal Diseases4. Consumer's Product Protection		2,127,608.52	435,687.06	2,563,295.58
5. State Laboratory Institute		1,873,793.20	66,420.26	1,940,213.46
5. State Laboratory Institute		2,961,105.80	457,987.03	3,419,092.83
HEALTH SERVICES				
1. Hospitals		38,391,330.69		38,391,330.69
Lakeville	4,584,869.64			
Lemuel Shattuck Hospital	9,622,107.62			
A. Research Program				
Chronic Hepatitis	84,962.36			
B. Emphysema				
C. Renal Disease	232,122.33			
Mass. Hospital School	3,626,340.92			
Pondville	3,964,703.04			
A. Cancer Research Project	68,467.16			
Rutland Heights Tewksbury Hospital	3,378,990.21			
Western Massachusetts	9,869,500.88 2,959,266.53			
Western Massachusetts	2,909,200.03			
2. Division of Alcoholism		6,550,410.93	585,745.87	7,136,156.80
3. Regional Offices		422, <mark>53</mark> 2.48	636,985.22	1,059,517.70
4. Family Health Services		4,792,067.06	4,598,708.84	9,390,775.90
TOTALS		\$66,998,264.52	\$10,521,804.66	\$77,520,069.18

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2 PARONANO VEN SERVICES Many Missions NEW DIRECTIONS



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1976

Jonathan E. Fielding, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

James A. Hooley, M.S.W.	1972- 1 977
Evelyn Greenman	1972-1976
Joen Greenwood, M.A.	1973-1979
Sr. Mary Caritas, S.P., M.Ed.	1974-1978
William B. Gault, M.D.	1974-1980
Richard L. McDowell, Ph.D.	1975-1981
Susan M. Willoughby, Ed.D.	1976-1978
Harvey V. Fineberg, M.D., M.P.H.	1976-1978

Barbara Corcoran, Secretary

Pearl K. Russo, *Editor*Chester R. Kennedy, *Art Director*

Many Missions 1975-1976

"...take cognizance of the interests of health and life among the citizens of the Commonwealth."

-Act of 1869 Establishing the State Board of Health.

The Massachusetts Department of Public Health has not one but many missions — that is its legal mandate. Entering its 107th year, the Department has reaffirmed this position to health-care and consumer groups throughout the Commonwealth. The original statement of purpose, updated 100 years later, succinctly expresses the basic goals of the Department today: "To maintain, protect and improve the health and well-being of the people."

Fully cognizant of the changing patterns in the role and function of public health in the Commonwealth and throughout the country, the Department has maintained that the health-care delivery system can operate only within the context of the social and economic factors that impinge upon the lives of all residents in the state. Such factors as poor housing, lack of transportation, malnutrition, lack of entry to primary health care, all influence decisions and programs of the Department.

Although the emphasis may shift from decade to decade, the responsibilities of the Department continue to fall into four major categories: Health Services, Health Protection (this includes health surveillance and disease control, and food and drug program), Health Regulation and Health Planning.

Health planning became a major responsibility of the Department with the passage of the National Health Planning and Resources Development Act of 1974 (P.L. 93-641). Designation of the Department as the State Health Planning and Development Agency, required under the act, resulted in the physical and functional transfer of the Office of Comprehensive Health Planning to the Department. A Transition Team composed of commissioners from several human services agencies worked to delineate the composition and role of the new planning unit.

Despite severe budget restrictions, the Department continued the core services of public health — family and children's services, communicable and venereal disease control, tuberculosis control, alcoholism services, food and drug program, hospital and laboratory services — and maintained high standards. The Department was also able to introduce new, or to expand existing, programs by aggressively seeking federal funds.

Improved management services, however, were the key to the continuation of essential programs and to the development of innovative programs throughout the Department. The initiation of a revised activity code on July 1, 1975, made known the actual cost of every Department program in the Divisions as needed, or on a monthly basis. A careful review of cost benefits and cost effectiveness of all programs led to a reduction of net state costs without reducing essential services.

As a result, the Department was in a position to submit a budget request for fiscal year 1977 that was \$2.6 million less than the request for fiscal year 1976. This budget request represented an estimated net state cost of \$36.9 — \$1.1 million less than the comparable cost for the previous year.

In selecting its priorities for the years ahead, the Department has stressed that, within the framework of the present allocation of funds for health care, much more attention must be paid to the prevention of disease and accidents. It has, therefore, begun the development of a Division of Preventive Medicine, to be implemented early in fiscal year 1977.

Clearly, the achievements of the Department cannot be evaluated in terms of one year's activities. A mere listing of the number of programs initiated, the number of services performed, the number of dollars expended cannot adequately depict the dimensions or successes of the Department's multifaceted activities. Yet the services provided are daily evident. Progress will be more fully evaluated after a lapse of time when long-range results will be more easily ascertained.

This 62nd Annual Report* is, therefore, a brief accounting of the activities of the Department of Public Health in a year of fiscal constraints and prudent programming. Through careful utilization of the resources available, through planning and reevaluation of its programs and activities, the Department carried out its mandate to the people of the Commonwealth.

^{*} In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

NEW PROGRAMS Health Services

Hospitals

The Department instituted a discussion on what its role should be in the direct provision of medical care, especially through its seven public health hospitals. Originally developed as specialty institutions, the hospitals had been underutilized. As a first step toward the fullest utilization of these facilities, the Department considered the possible diversification of the services provided. Secondly, the Department drafted legislation to allow greater flexibility in the use of its hospitals and to provide more services to other agencies within the Office of Human Services.

Signed into law on December 15, 1975, the act made possible the establishment of a series of cooperative ventures among these state agencies. The statutory change removed the prohibition against the care of mentally ill and mentally retarded patients in the public health hospitals, and broadened the scope of both the inpatient and outpatient services that the facilities could provide.

Patients from the phased-out Gardner State Hospital were transferred to the Rutland Heights Hospital in June. By the middle of the month, the Gardner-Athol Psychiatric Unit of 115 beds opened as an adjunct to the hospital, and admitted 107 patients. Rutland Heights is now providing ancillary services for this group of patients. Meanwhile, patients from both the Department of Mental Health and the Department of Correction were receiving treatment at the Lemuel Shattuck Hospital.

In addition, the Department has been involved in planning with the two state agencies and the University of Massachusetts Medical School in Worcester on how to provide a more integrated and coordinated system of public health. The involvement of the staff and facilities at the Medical School and the Department's Western Massachusetts Hospital in Westfield is providing better medical care for patients at the Monson and Belchertown State Schools and at the Northampton State Hospital.

Pondville Hospital, the first state-operated facility for the treatment of cancer in the country, and the Medical School carried out active negotiations for an affiliated program in all departments. An affiliation with the Department of Radiology will begin on September 1, 1976; other departments will be integrated into the program at a later date.

In addition to training medical students from the University of Massachusetts Medical School, from Tufts University School of Medicine and the University of Illinois School of Medicine, who served four to ten-week elective oncology rotations on Pondville's medical service, the hospital began training students from Northeastern University's Physician's Assistant Program in physical diagnosis. Pondville also initiated a program for more advanced physician assistant students, who are coming to the hospital two at a time.

Pursuing an aggressive policy of applying for federal funds, the Department received federal grants totaling \$446,475 for three of its hospitals — Lakeville Hospital, the Massachusetts Hospital School, and the Western Massachusetts Hospital. The monies have allowed for much needed but unfunded state projects and, at the same time, provided work to the unemployed in the communities. Some of the projects included: roof repairs, removal of architectural barriers to the handicapped, and renovations to bring the hospitals up to the standards of the Life Safety Code.

Lakeville Hospital, which shifted its emphasis in the past few years to physical medicine and rehabilitation, also serves as the southeastern regional center for end-stage renal dialysis treatment. Opened in 1970, the Dialysis Unit operated two stations on one shift. This year, the unit went on a ten-stations, three shift schedule, six days a week. Two additional stations are reserved for emergencies. Forty patients are now on the program.

Programs of a rehabilitative nature planned with the Department of Correction in 1973 have been developed. Clients of the Massachusetts Rehabilitation Commission referred by the Department of Correction from the low security camp at South Carver participate in work-training five days a week in Lakeville's departmental programs of nursing, physical and occupational therapy, maintenance and carpentry, brace shop, and electrical repair. The performance of those in the program has been exceptional.

A tremendous asset not only to the Department but to the southeastern region is the leasing of one of Lakeville's buildings to several different human services agencies. Concentration of these agencies at one site presents an opportunity for collaboration and communication that are essential to coordinated programming.

The Massachusetts Hospital School used part of its federal grant to begin construction of an exciting project, the Environmental Education Trail System for handicapped children, the first in the country. Ground-breaking ceremonies took place on April 3, 1976. Truly a community endeavor, the project was planned and staked out by the faculty and students of the Blue Hills Regional Vocational School, and by volunteers from the Engineering Division of the Department of Public Works. Manpower and equipment from Company C of

the 101st Engineering Battalion, 26th Yankee Division, helped get the project underway.

The Hospital School increased its services to the neighboring communities by staffing ten scoliosis clinics, and by expanding the number of its outpatient clinics. The Hospital School also carried out cooperative programs with the Division of Family Health Services, the Massachusetts Rehabilitation Commission, and with other state and local organizations.

The Western Massachusetts Hospital, which opened a pediatric ward last year, organized an unusual Respite Care Program for multiply handicapped children. The program gives parents of these children an opportunity to bring them to the hospital for evaluation and treatment by a team headed by the physician in charge of rehabilitative medicine. Specialists in occupational and physical therapy, speech therapy and social service are other members of the team. The program has evaluated 15 to 20 children, many of whom stay in the hospital as inpatients.

As an essential component of its rehabilitation treatment of patients in its Alcoholism Unit, the hospital organized a recreational program to include a softball team. Patients participated in competition with teams from other detoxification centers.

The New Year marked an important date in the long history of Tewksbury Hospital. Authorized under Chapter 275 of the Acts of 1852, the hospital was transferred from the Department of Welfare to the Department of Public Health in 1959. Tewksbury Hospital embarked on a building program in the 1960's, which was completed with the transfer of all remaining patients to the second new 300-bed wing. Demolition of the pre-Civil War buildings is now in progress. Two of the post-Civil War buildings will be maintained to house the hospital's Head Start Program and the Day Care Center for working mothers.

Retirement from state service left four of the Department's hospitals without superintendents. An active recruitment campaign to find well trained, experienced health-care managers brought superintendents to the Rutland Heights and Western Massachusetts Hospitals. The two remaining positions will be filled early in fiscal year 1977.





Family Health Services

Through the Division of Family Health Services, the Department has worked to develop a central intake system for the multiply handicapped child. Under this system, any multiply handicapped youngster who enters the health care system is seen by a team of physicians, psychiatrists and social workers. The team evaluation is the basis for referral of the child to the appropriate agency or institution for care.

As part of its continuing efforts on behalf of the multiply handicapped, the Division contracted with the New England Medical Center to establish an infant team to develop screening techniques and measurements to describe cognitive abilities in multiply handicapped children. The project aims to collect data on individual children and to prepare protocols for assessing and stimulating the cognitive development of severely physically handicapped children.

Passage of Public Law 94-105 (October 7, 1975) extended the Child Nutrition Act through September 30, 1978. This made possible the Department's continued funding of the Women, Infants and Children's Program (WIC), which provides supplemental foods to preganant or lactating women, and to infants and children up to five years of age who are determined to be nutritional risks.

WIC in Massachusetts developed new protocols for the assessment of nutritional needs. Tested at the five WIC centers in the state in the spring, the protocols are still being refined. In January, a new WIC Advisory Committee was formed to allow community action programs, health facilities and consumers to participate in policy and decision making at the state level.

Alcoholism Program

On July 29, 1974, a bill to establish the Driver Alcohol Education Program was signed into law. The Division of Alcoholism, on December 1, 1975, assumed full responsibility for the development and implementation of the program, which gives a person picked up for drunken driving the option of participating in an alcoholism education program. The Division developed guidelines and contracted with 26 nonprofit organizations throughout the state to operate 36 service units that cover district as well as appeals courts. From December 1, 1975 to the close of the fiscal year, 7,548 persons participated in the programs.

The Division was the recipient of a \$230,000 grant from the National Institute on Alcohol Abuse and Alcoholism because Massachusetts had enacted and successfully implemented legislation to meet the requirements of the Uniform Alcoholism Act (Chapter 1040, Acts of 1971). The funds were used in four high priority areas: 1) assessment of the impact of the statewide detoxification system; 2) training for personnel; 3) development of models for post-detoxification, pre-halfway house treatment; and 4) detoxification coverage for one of two areas in the state not previously covered.

Health Protection

Tuberculosis Control Program

The Tuberculosis Control Program made changes in the delivery of long-term care to tuberculous patients in the Commonwealth to provide improved patient care and, at the same time, to maintain or increase cost effectiveness, the key proposal, consolidation of long-term TB beds in one hospital rather than in partially filled wards in three hospitals, became effective in March, when the Program terminated its contract with the Mattapan Chronic Disease Hospital. All tuberculosis patients were either discharged or transferred to Middlesex County Hospital. The Norfolk County Hospital was notified that it will no longer provide hospital care for tuberculosis after March 31, 1977.

Middlesex County Hospital was designated the last remaining long-term tuberculosis hospital in the state. This was the culmination of the reorganization of the Tuberculosis Control Program that had begun in 1961 to replace 18 state, county and municipal hospitals with five regional tuberculosis hospitals, with a resultant improvement in patient care, more efficient use of health manpower, and at a great savings to the Commonwealth.

In fiscal year 1976, the Tuberculosis Control Program saved the Commonwealth close to \$1,000,000 in its patient-care account even though hospital rates had risen 17 percent in the same period. Savings resulted from steps taken in the previous. year to broaden the Medicaid-collections base in long-term hospitals and, to a lesser extent, from the initial consolidation of tuberculosis beds.

Communicable and Venereal Disease Control

The Department established, in the Division of Communicable and Venereal Diseases, cost-control procedures for the 20 state-supported venereal disease clinics across the state. By the end of the fiscal year, seven of the clinics were using the patient-charge system initiated by the Division. The system of charges allows hospitals to defray their operating deficits by asking payments from patients who use the clinics. Patients who cannot pay continue to receive treatment.

The Division, which carries out an extensive educational program of formal training lectures, films, consultations, radio and TV programs, was accredited by the Massachusetts Medical Society to grant credits, hour by hour, to physicians who attend the Division's lectures. These credits are for Category I and may be applied to the American Medical Association's Physician Recognition Award.

Food and Drugs

In another effort to contain costs without substantially reducing program services, the Department requested a federal take-over of the inspection of meat and poultry plants in the Commonwealth. The take-over, completed on January 12, 1976, followed several months of discussions, deliberation and negotiation with various interest groups and governmental bodies.



State Laboratory Institute

A bill introduced by the Department for more than five legislative sessions was finally enacted into law by the 1975 General Assembly. The statute established a system of licensure for the many private, independent clinical laboratories that had been operating without any controls in Massachusetts. By removing the danger of unqualified groups or individuals setting up substandard laboratories, the law will result in improved quality of service offered by private laboratories.

Two new programs at the State Laboratory Institute augmented the Institute's continuing efforts in disease prevention, especially in the area of mental retardation. With the aid of a grant from the Massachusetts Developmental Disabilities Council, the Hypothyroidism Screening Program was established to screen newborns for hypothyroidism, the cause of cretinism.

An additional grant of \$97,000 from the Department of Commerce allowed the Metabolic Disorders Screening Laboratory to expand its capabilities and to begin testing, on January 1, 1976, for the newly established New England Regional Metabolic Disorders Screening Program. The program has screened for a limited number of metabolic disorders, including hypothyroidism, for Connecticut, Maine and Rhode Island. The aim of the program is to include all of the New England States in a regional system that will prove more cost effective than individually operated state programs.

These two new programs have already exhibited striking cost effectiveness. The Hypothyroidism Screening Program, in its first six months of operation, identified six Massachusetts infants with congenital hypothyroidism and placed them under treatment. An advisory group of pediatric endocrinologists was established to act as consultants in the management of the hypothyroid infants.

Preventive Medicine

Concerned with the dramatic rise in health care costs and expenditures in the Commonwealth and in the nation, the Department has emphasized that much more attention be paid to the prevention of disease and accidents. In keeping with its commitment to primary prevention, the Department established a new position, Director of Preventive Medicine. The new director will assume administrative responsibility for both the Division of Local Health Services and the Office of Health Education. Formulating and organizing programs to help motivate individuals to change the practices in their lifestyle that contribute to preventable illnesses is receiving major emphasis.

Health Planning

A coordinated approach to health planning, both of programs and of facilities, has been a major concern of the Department. To help prevent duplication of activities and to reduce fragmentation of health services, the Department moved to combine the Office of Comprehensive Health Planning with the Office of Health Statistics and Analysis into one Office of State Health Planning. Plans to integrate fully the two agencies will be implemented early in the next fiscal year.

Health Regulation

Health Care Standards

By the end of the fiscal year, the Department was in full compliance with federal requirements to perform Periodic Medical Reviews of all patients in Level II nursing homes and in psychiatric hospitals. The Department performed on-site patient reviews of all Title XIX Medicaid patients in skilled nursing homes to determine the appropriateness of placement and care received.

Health Facilities and Development

After extensive research and analysis, the Department, in cooperation with state, regional and other health planning agencies, developed standards and criteria for determining the need for acute-care beds. These standards and criteria were presented for discussion and review to a public hearing. After

final promulgation by the Public Health Council, they will become part of the regulations of the Determination of Need Program.

Emergency Medical Services

The Office of Emergency Medical Services, which has operated within the Department of Public Health since 1973, broadened its statewide program of continuing education. Following a successful pilot test of a 137-hour curriculum, OEMS initiated the first comprehensive continuing education program for emergency-department nurses in the Commonwealth. Twenty-seven graduates of the program have organized weekly or monthly seminars to teach over 100 nurses the principles of adult medical and surgical emergency care.

Management Services

Improvements in management services resulted in more cost effective programs in the Department, at a substantial savings to the taxpayers of the Commonwealth. In addition to setting up the revised activity code structure, the Department acquired an on-line video data terminal (VDT). Connected to the computer system of the Executive Office of Administration and Finance, the terminal provides up-to-date information on the status of all state and federal funds.

Input of all personnel information, except for requisitions, was also linked to the VDT. As a result, the Department was able to update all its personnel records, and to receive current reports on personnel statistics.

The Fiscal Office acquired three new accounting machines to enable the Department to produce monthly financial statements by program activities as well as by appropriations. Program directors will, at a glance, be able to determine the amount of state or federal funds budgeted to their programs.

Data Processing

The Data Processing Unit, formerly part of the Office of Health Statistics and Analysis, was transferred to Management Services. Its main function is support to the various divisions of the Department by collecting, processing and analyzing management information.

Personnel

A newly established Personnel Department combined the responsibilities of the Office of Manpower Development and Training, and of the Personnel Office, Reorganized procedures and activities allow the Department to be more responsive to the needs of both management and employees in the hospitals and regions, as well as in the central office. A new director was assigned to manage all aspects of personnel – employee relations, training and development, affirmative action and employment.

CONTINUING PROGRAMS Health Services

One of the major functions of the Department of Public Health is the provision of direct health services that are not generally provided by the private sector. Primary services include: hospital care through seven departmental hospitals, detoxification and rehabilitation of alcoholics through the Department's community-based alcoholism program, and services to mothers and children through Family Health Services.

ALCOHOLISM PROGRAM

The Division of Alcoholism continued to use the 1975 Massachusetts State Plan for the Prevention and Control of Alcohol Abuse and Alcoholism as the basis for allocation of resources and staff priorities.

By June 30, 1976, the Division had established the complete network of 21 alcoholism intervention centers with 480 beds. During fiscal year 1976, these detoxification facilities had admitted 46,050 individuals, an overall utilization rate of 95 percent.

Several programs continued to operate and grow: The Division supported 36 halfway house programs through a fee-for-service contract with each program. By providing technical and financial assistance, the Division helped halfway house programs to meet licensure requirements. The number of clients seen in the 22 state-supported outpatient counseling

programs increased, primarily because of the development of the Driver Alcohol Education Program, and the increase in community awareness of alcohol problems.

The Division also funded 31 new special projects, through a competitive grant review process. Many of these projects were directed toward the high priority areas of youth, early intervention, education and prevention, and high risks groups including minorities and women.

To improve and strengthen the Driver Alcohol Education Program, the Division organized a task force of program vendors and Division staff, with assistance from the probation system, to recommend a program model and curriculum to provide minimum standards for programs throughout the state. In addition, a full-time criminal justice coordinator was hired to coordinate statewide activities of the Program.

HOSPITALS

Despite cutbacks in funds and understaffing, the Department's seven hospitals continued to provide a broad range of clinical services to meet the needs of patients with long-term but remediable disabilities. Working more closely with other agencies within the Executive Office of Human Services, the Department extended its basic preventive and protective services to segments of society that do not usually receive help from private medical resources. The hospitals' services and programs are briefly summarized:

Hospital Services

Lakeville Comprehensive rehabilitation and education for handicapped children, rehabilitation for physically handicapped adults, chronic renal dialysis.

Lemuel Shattuck Medical and surgical care of chronic illness, emphasizing pulmonary disease care, renal dialysis, chronic alcoholism and vascular programs.

Massachusetts Education and vocational training coupled with medical and surgical care of physically handicapped but intellectually able children.

Pondville Multimodality treatment of cancer in adults and children.

Rutland Heights Long-term hospitalization and rehabilitation of adults with chronic diseases and alcoholism. Medical and surgical care of chronically ill and severely handicapped adults, alcoholism program.

Western Long-term care of chronic illnesses in adults, rehabilitation and alcoholism programs. Medical and surgical care of multiply handicapped children.

The hospitals' programs are briefly summarized:

- Lakeville Hospital, by adding new programs and augmenting continuing projects, improved its rehabilitative services to the physically handicapped of all ages. The establishment of a Muscular Dystrophy Clinic, under the sponsorship of the Muscular Dystrophy Foundation, increased neurological evaluation and treatment of patients.
- Lemuel Shattuck Hospital expanded services to the Department of Correction by increasing the number of beds from eight to 15. Tentative plans were discussed to develop an 80-100 bed medical geriatric unit for persons living in Mental Health Region VI.
- The Massachusetts Hospital School continued to show a decrease in the use of inpatient services, shorter lengths of stay, and an acceleration of community oriented programs. Most of the long-term patients who could be placed in the community have left the hospital, which is now serving a much more handicapped population.
- Pondville Hospital continued its research studies, in addition to patient care. As a result of preliminary work in the tissue culture laboratory in isolating antigens and antibodies from patients with carcinoma of the ovary and other malignancies, the hospital received a contract from the National Cancer Institute to pursue this work over the next three years. The project will be done collaboratively with the Lenox Hill Hospital in New York City.
- Rutland Heights Hospital restructured its Physical Medicine Department to strengthen the program and to enhance treatment of the patient. A leader in using hospital facilities for student education, the hospital continued its student internship programs in social service, physical medicine, medical assistant and medical secretary fields. About 40 students from colleges in the area participated, some under a work-study arrangement.



- Tewksbury Hospital invited patients admitted to the Alcoholism Unit to join the hospital's referral program, to obtain individual counseling, to participate in weekly group therapy, and to attend weekly AA meetings. About 20 men of the 102 interviewed participated in the program; after two to four weeks, they were referred to an outpatient treatment facility.
- The Western Massachusetts Hospital provided quarters for the integrated preschool for handicapped and non-handicapped children conducted by the Division of Family Health Services. The hospital established a day camp for the children in the Pediatric Unit and opened the facilities to community youngsters.

The seven hospitals, with an actual operating capacity of 1,784 beds, admitted 5,576 patients during fiscal year 1976, a decrease of approximately 1,000 from 1975. Improved funding and staffing patterns, and new programs were expected to increase the total hospital census in the months ahead. The average length of stay varied from 16 days at Pondville to 176 days at the Massachusetts Hospital School. The number of outpatient visits continued high — 41,565

Table 1

PUBLIC HEALTH HOSPITALS YEARLY CENSUS SUMMARY — JULY 1, 1975 - JUNE 30, 1976

	Operating Capacity	Admissions	Discharges	Average Daily Census	Percent of Occupancy	Average Length Of Stay	Outpatient Visits	Total Patient Days
Lakeville	130	393	379	95 .6	73	103	4,059	34,999
Lemuel Shattuck	125	1,544	1,492	116	93	30	8,069	42,688
Mass. Hospital School	160	244	253	112	70	176	1,299	40,359
Pondville	80	1,190	978	58	73	16	16,652	21,481
Rutland Heights	160	564	454	144	90	75	3,468	50,981
Tewksbury	730	457	318	682	93	116		249,580
Western Mass.	99	888	833	75	76	29	8,018	27,568
Totals	1,784	5,576	5,004				41,565	548,257



FAMILY HEALTH SERVICES

Through the two components of the Division of Family Health Services — Maternal and Child Health, and Services for Handicapped Children — the Department continued to carry out many programs that aim to reduce infant and maternal morbidity and mortality, promote maternal and child health, and to evaluate and treat handicapped children.

Maternal and Child Health

The grantee of funds under the Maternal and Infant Care Projects and of the Children and Youth Projects, the Department was able to fund new MIC programs in Waltham, and new C&I projects in Lynn, Lowell and in the western part of the state. The eight Boston projects for both MIC and C&Y continued to receive support.

The School Health Program, in cooperation with the Massachusetts Department of Education, offered a comprehensive continuous education course for nurses, physical and health education teachers, coaches and school administrators. The courses attracted about 1,000.

Other Family Health Service projects which expanded during the year included aid to the hard of hearing, vision conservation, rheumatic fever prevention, epilepsy control, aid to children with cystic fibrosis or hemophilia, and premature birth programs for wed and unwed mothers.

Services to Handicapped Children

The Department established an Orofacial Anomalies Program at the Massachusetts Hospital School in September 1975. A multidisciplinary team — a pediatrician, a plastic surgeon, an otolaryngologist, an orthodontist, two speech pathologists, a nurse and a social worker — staffs the new clinic.

The Services to Children with Multiple Handicaps expanded its services to meet the individual needs of each child: 250 multiply handicapped children were placed in residential care; 175 were in day care programs. Families received assistance through homemaker care, respite residential care, evaluation and planning for special needs.



COMMUNITY HEALTH

Despite the gradual scaling down of programs and services, the Division of Local Health Services provided administrative support and liaison to the four regional health offices. Personnel in the regional offices continued to coordinate the Department's general field activities and to act as intermediaries between the central service programs and the local health agencies. To the extent that resources were available, staff worked to enforce the articles of the Sanitary Code for which the Department is still responsible, to carry out prison inspections, and to certify migrant labor camps.

Only a few activities of each regional office in the past year can be mentioned:

 Central Region — Social workers, in addition to their counseling and referral activities, made home and school visits for either core evaluations, as required under Chapter 766, or for school related problems of clinic patients. One social worker has been working with the Interdepartmental Team of the Office for Children, and with the Chapter 766 Regional Review Board.

- Northeastern Region The Early Childhood Development Team, funded by the Department through the Lowell Office of Human Services, served families of children from birth to age three who are developmentally delayed or at risk. The multidisciplinary team provided education, nursing, occupational therapy, physical therapy, social work and speech therapy services in the home free of charge.
- Southeastern Region Personnel continued to staff the Southeastern Association of Boards of Health, and to participate, with the Department of Environmental Quality Engineering, in a five-session program designed to help members of local boards of health learn what their responsibilities are. The last session was attended by 67 individuals.
- Western Region Since the Department is still responsible for the enforcement of Articles II, III, IV and X of the State Sanitary Code, the Regional Office made inspections of 12 migrant labor camps, and of recreational camps and mobile trailer parks. Camps operated by fruit growers were to be inspected after July 1, 1976.

Health Protection

HEALTH SURVEILLANCE AND DISEASE CONTROL

Health surveillance and disease control encompass the classic core activities that are and must remain the direct responsibility of the state. These activities are carried out primarily in three related sections of the Department: Communicable and Venereal Diseases, Tuberculosis Control and the State Laboratory Institute.

COMMUNICABLE DISEASE CONTROL

Measles down from 19,512 cases in 1965 to 106 in 1975. Mumps down from 9,024 cases in 1968 to 308 cases in 1975. Rubella down from 1,737 cases reported in 1969 to 1,223 in 1975. These figures indicate the remarkable progress of the Department in controlling these common communicable diseases through the statewide immunization programs. These programs not only prevented illness and death, but also saved the Commonwealth approximately \$8,346,000 in actual costs of medical care of patients.

For the second year, the triviral (measles/mumps/rubella) vaccine was used exclusively throughout the state. This resulted in lower cost for the vaccine and for administrative expenses.

On a maintenance immunization program since polio vaccine became available, Massachusetts has not had a single reported case of polio since 1968. An immunization survey of children entering kindergarten or grade one in 1975 showed that 94.10 percent had already received polio vaccine as compared to 92.04 percent in 1974.

The percentages of these children immunized against the other six immunizable diseases all showed increases over 1974:

DTP	Diphtheria Tetanus Whooping Cough	95.04
	Measles	94.60
	Mumps	78.00
	Rubella	78.51

In the summer of 1975, six residents of Nantucket Island became ill with babesiosis, a disease not previously recorded in the state. Caused by a protozoan parasite called Babesia, the disease may be transmitted to man through the bite of a tick. The Department issued releases through the press, radio and TV advising visitors on protective measures to take. No further cases nor deaths were recorded.

The prevalence of other preventable infectious diseases in the state remained low. Only seven cases of whooping cough and two of tetanus were reported. There were no reported cases of diphtheria or smallpox.



VENEREAL DISEASE PROGRAM

Of the 14 sexually transmissible diseases, five — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes and genital warts — are epidemic in Massachusetts and in the nation. Because of the increase in cases of genital herpes and non-gonococcal urethritis, these two diseases will be added to the list of reportable diseases. The 12,967 cases of gonorrhea reported in the calendar year 1975 in the Commonwealth represented an increase of 14 percent over 1974 (Table 2).

For the calendar year 1975, primary and secondary syphilis showed a decrease of 14 percent from 1974: 640 cases in 1974 down to 546 in 1975. Early latent syphilis declined by 11.6 percent.

The Department's program for the screening of asymptomatic females for gonorrhea continued with the renewal of a federal grant for \$264,944. During fiscal year 1976, the program examined 143,563 women by culture, of whom 5,086 were found positive, a positivity rate of 3.5 percent.

The Division funded three nurse-epidemiologist positions to augment existing epidemiologic services throughout the state. They were assigned to two hospitals in the Greater Boston Area, and one in Fall River.

In its attack upon venereal disease, the Department continued its three-pronged program of education, treatment and control. The 20 cooperating state venereal disease clinics in the outpatient departments of general hospitals had 59,336 patient visits for examination and treatment.



TUBERCULOSIS CONTROL PROGRAM

Tuberculosis in Massachusetts is still a significant health problem and a source of crippling disease. In the calendar year 1975, the number of new cases reported in the state reached 719, a slight increase over the 701 cases reported in the previous year. Uncontrolled areas of infection and an influx of high-risk population into the state are the factors responsible. Boston, Fall River-New Bedford, Springfield and the Lawrence area have unacceptably high incidences of the disease.

The relative decline of the sanatorium-based inpatient tuberculosis services continued. The Tuberculosis Control Program provided short-term hospitalization by contract in seven general hospitals, and surgical services in two others. The Program also provided coordination and support for the compulsory isolation of recalcitrant or uncooperative patients in conjunction with local boards of health and the Middlesex County Hospital.

Outpatient facilities continued to assume greater importance in the treatment of patients as hospital stays were reduced or eliminated, and as ambulatory programs were expanded. The Department contracted with 35 hospitals and 65 other providers to make superior services available and accessible to all residents of the Commonwealth. Local boards of health worked closely with the Department to provide an integrated health protection system.

FLUORIDATION PROGRAM

The highlight of the Fluoridation Program in 1976 was the approval of the plans for the fluoridation of the Metropolitan District's water supply. When fluoridation of the MDC's water supply takes place in 1977, 53 percent of the state's population will receive fluoridated water. The percentage of the state's population now receiving fluoridated water is 22.



STATE LABORATORY INSTITUTE

The State Laboratory Institute, through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, carries out multiple functions:

- Research and development of new technology
- Production of serums and vaccines for use throughout the Commonwealth
- Diagnosis of rare or exotic disease
- Establishment of new diagnostic tests

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories maintained its production of vaccines, toxoids and human plasma at a level adequate to meet all demands, despite reductions in budget and personnel, and increased stringency of federal regulations.

The Division initiated a policy of encouraging sale of biologic products to out-of-state users and of accepting payments for materials supplied for research purposes. Further progress was made in increasing the efficiency of production and testing of major biologic products by the use of larger production lots. Other important developments during the year included:

- Tetanus toxoid A new form of tetanus toxoid was evaluated in single-dose primary immunization. The toxoid was well tolerated, and was highly effective in immunizing children. Tetanus toxoid produced by a new method is under trial in secondary immunization of adult volunteers.
- Bordetella pertussis Fluorescent antibody reagent was developed for identification of Bordetella pertussis. The procedure was made available for confirming the diagnosis of whooping cough.

Table 3
Diagnostic Laboratories
Metabolic Disorders
Laboratory
July 1975 – June 1976

Α.	Routine Specimens	Number	Approximate % of Live Births
	Umbilical Cord Blood	66,050	94
	Newborn Blood	68.219	97
	Urine	56,016	80
		190,285	
B.	Other Specimens*	6,880	
Tot	al Number of Specimens	197,165	
Tot	al Number of Tests		

 Include "special" blood, repeat newborn urines, repeat newborn bloods, and prenatal sera.

Performed

844 810

• Rh Immune Globulin — Massachusetts continued to be the only state producing its own Rh Immune Globulin for distribution at no charge to maternity hospitals. The number of doses distributed to 54 Massachusetts hospitals with maternity services was 5,909.

DIAGNOSTIC LABORATORIES

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assisted local laboratories throughout the state to achieve a high degree of excellence in the performance of clinical laboratory tests. During 1975-76, the proficiency testing program was maintained at approximately the same level as in the previous year. In calendar year 1975, the Program awarded certificates of approval to 291 laboratories for the performance of one or more diagnostic specialties.

The program remained responsible for proficiency testing of hospital blood banks, of laboratories performing maternal and pre-natal blood tests for syphilis, and of laboratories in the Medicare Program.

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism. The total number of tests performed was 844,810 (Table 3).

During the year, 11 infants with phenylketonuria (PKU) were identified and placed on the appropriate diet. In addition, babies with other metabolic disorders, such as galactosemia, maple syrup urine disease and hyperprolinemia, were discovered and placed on the appropriate specific diets.

Parasitology Laboratory

The Parasitology Laboratory provided full-scale serologic services for the detection of toxoplasmosis, a parasitic infection capable of causing significant diseases, particularly in the newborn. The demand for toxoplasma testing has steadily increased, from 574 samples in 1972 to 1,531 in 1976. In addition to testing for other parasitic diseases, the laboratory provided telephone consultation to many physicians, veterinarians, laboratories, local health departments and health facilities on diagnosis, control and treatment of various zoonotic and parasitic diseases.

Virology Laboratory

The Virology Laboratory provided consultation and the specialized type of laboratory services that are unavailable elsewhere in the Commonwealth. Congenital diseases associated with rubella, cytomegalovirus (CMV) and herpes increased over the previous fiscal year, with a concomitant increase in the number of congenitally damaged infants — 273 in 1975 and 371 in 1976.

Arbovirus surveillance tests were carried out at the laboratory at higher levels than those of fiscal year 1975. One human death resulted from an eastern encephalitis virus. As a result of elevated mosquito infection rates and of the one human infection, the Department carried out spray operations of epizootic areas to reduce mosquito populations.

Bacteriology Laboratory

The Throat Culture Program of the Bacteriology Laboratory processed 106,187 specimens from patients 12 years of age and under, approximately the same number of specimens as in the previous year. The Enteric Disease Program had an unusual year because of numerous outbreaks, several resulting in a large number of specimens. The Laboratory identified cases of *Salmonella typhi*, part of an interstate outbreak of typhoid associated with a New York City restaurant. Foodborne and waterborne outbreaks also received considerable laboratory support.

Serology Laboratory

In collaboration with the Laboratory Improvement Program, the Hinton Serology Laboratory conducted statewide syphilis serology proficiency testing of local laboratories to qualify them to perform premarital syphilis serology testing, as required by law.

Lead Poisoning Prevention

The Childhood Lead Poisoning Prevention Program, which went into effect in March 1973, has two specific aims: to identify children who may be damaged by high blood levels of lead, and to prevent future exposure to the hazards of lead by controlling the environment. Despite the enormity of the task, the Program in 1975 tested over 100,000 children one through five years of age at least once for lead poisoning. This was an increase of 20,000 over 1974.

Since poverty is associated with 90 percent of lead poisoning in children, the Program concentrated a major effort on removing the hazards of lead-based paint in older houses. As a result of enforcement of the State Sanitary Code by the Lead Poisoning Prevention Program, by federally funded local programs to which the state program had delegated authority, and by a few local boards of health, almost 5,000 dwelling units were freed of lead paint hazards.







FOOD AND DRUGS

The Division of Food and Drugs is charged with the responsibility of protecting the consuming public from the detrimental effects of chemicals, adulterated foods, unsanitary bedding and upholstery. The Division is also responsible for the licensing of vending machines, cold storage warehouses, upholstered furniture, stuffed toys; the licensing of manufacturers of narcotic drugs and establishments that use animals for experimental purposes; the licensing of slaughterhouses and meat and poultry establishments.

Because of the diversity and number of different facilities that come under the control of the Division, the Food and Drug Facility Inspecting System has begun to automate data collection and inspection scheduling. Data assembled from general inspectors provide inspectional printouts that show the initial inspection, address, town or city, type of business, the outcome of the inspection and the date of the next inspection. Full implementation of the management data processing system will permit better utilization of the Division's inspectors in maintaining the sanitary conditions of food and drug establishments in the Commonwealth.

Health Regulation

Through its programs of standard setting, inspection, licensure and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has responsibility for preventing unnecessary expansion of health care facilities.

HEALTH CARE STANDARDS

The Division of Health Care Standards is responsible for enforcing the criteria for licensure or certification in a health care system that includes more than 2,000 health facilities — hospitals, nursing homes, rest homes, clinics and infirmaries, and independent laboratories. It is also responsible for the inspection of all diagnostic and therapeutic X-ray units in hospitals, private offices and departments of nuclear medicine.

The Specialized Long-Term Care Facilities Program of the Division surveyed approximately 185 hospitals, 1,000 nursing home facilities, and 154 home health agencies for the Medicare and Medicaid programs. The program also certified professional groups, such as chiropractors and physical therapists who participate in the Medicare program.

The Division maintained liaison with other units within the Department and with other state agencies — Office for Children, Departments of Environmental Ouality Engineering, Public Safety and Public Welfare — to coordinate activities relative to facilities and provider contracts.

As part of its educational activities, the Long-Term Care Facilities Program held 12 training sessions for providers. The awarding of a grant from HEW allowed the Program to organize a series of workshops for providers that stressed interpretation and implementation of federal regulations in long-term care facilities.

Radiation Control

To help insure compliance with the Department's program to control hazards from ionizing and non-ionizing radiation sources, the Radiation Control Program makes routine surveys of diagnostic and therapeutic X-ray units in hospitals and private offices, and of nuclear departments in hospitals, educational institutions and private offices. The Program also surveys colored television receivers, microwave ovens, and supermarket laser checkout systems on a request basis. In addition, the Program is responsible for monitoring nuclear power reactors.

The Radiation Control Program also collected data on the number of diagnostic procedures, such as radiographic fluoroscopy, CAT brain scans, pneumoencephalograms, cerebral angiograms, and radionuclide brain scans. The Program continued to monitor the field of radiation oncology to determine the number of new patients, the total number of treatments given, and the availability of treatment planning. Data collected on the number of craniotomies performed helped determine where these neurosurgical procedures were being conducted.





HEALTH FACILITIES AND DEVELOPMENT

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for all determination of need activities in the state. The purpose of the legislation was to prevent unnecessary building of new, or expansion of, existing health facilities, and to avoid wasteful duplication of services and facilities. The legislation also sought to ensure accessible and quality health care to all persons in the Commonwealth, and to control spiraling health costs.

The Office of Health Facilities and Development reviews all applications for construction or expansion of a health care facility, or expansion of equipment, that entail a capital expenditure of \$100,000 or more. The Office also reviews applications of health facilities that ask for a substantial change in service or for original licensure. In 1976, the Public Health Council acted upon 156 applications, of which 31 were denied, and 17 withdrawn. The estimated capital cost savings on hospital, nursing home and clinic beds came to \$202,610,000.

A new regulation adopted by the Department improved the Determination of Need process by allowing state facilities to file applications under unique status. The emergency regulation expedited the review of proposals for the transfer of patients from Department of Mental Health Hospitals to Department of Public Health Hospitals.

HEALTH STATISTICS AND ANALYSIS

The Office of Health Statistics and Analysis is responsible for the collection of data on licensed health occupations, vital events, health facilities and long-term care. In its fourth year of operation, the Office recorded the following accomplishments:

- Processed and analyzed data for births, deaths, marriages and divorces, and published *Public Document No. 1*, the Annual Report of Vital Statistics, for calendar years 1974 and 1975.
- Published the Health Data Annual, 1975, a statewide compilation of regional health-care data, prepared from the annual surveys of nursing homes, hospitals, home care agencies, and residential care facilities.
- Provided data for information-and-referral directories of health facilities published by state and voluntary agencies, such as United Community Services and the Office of Federal-State Resources.





OFFICE OF EMERGENCY MEDICAL SERVICE

The Office of Emergency Medical Services (OEMS) works with providers and consumers throughout the Commonwealth to improve the quality of the emergency care available to persons seriously ill or injured. Supported primarily by a federal Emergency Medical Services grant, OEMS continued its efforts to upgrade resources and to establish local and statewide emergency medical services networks:

- Carried out the first inspection of ambulance services, vehicles, equipment and personnel training under the standards mandated by the new Massachusetts Ambulance Regulations.
- Provided financial assistance in the purchase of 31 ambulances, in conjunction with the Governor's Highway Safety Bureau, for municipal and volunteer ambulance services, leading to the establishment of a statewide purchasing program that enables municipalities to acquire new vehicles at considerable savings.
- Worked with hospitals, ambulance services and other local emergency care providers to establish centralized communications facilities in Fall River, Cape Cod and Boston to enable physicians and nurses in emergency departments to provide medical direction to emergency medical technicians (EMT's) in the field.
- Initiated a standardized reporting and evaluation system for ambulance runs, which details patient condition, aid rendered, incident location and other important information; monthly computer reports are returned to participating ambulance services.

Health Planning

Passage of the National Health Planning and Resource Development Act of 1974 (P.L. 93-641) required specific activities within the state to implement the law. First was the designation of the Department of Public Health as the State Health Planning and Development Agency, and the subsequent transfer of the Office of Comprehensive Health Planning (OCHP), then in the Executive Office of Human Services. The merger of the Department's Office of Health Statistics and Analysis with OCHP, to be fully implemented in 1977, resulted in the Office of State Health Planning, and the designation of the Director of OCHP as the Deputy Director of OSHP.

During this period, OSHP devoted considerable attention to the establishment of Health Systems Agencies, the successors to the Comprehensive Health Planning "B" Agencies, and prepared a set of criteria to be used by the Governor in designating the HSA's. As part of this activity, OSHP conducted thorough reviews of all HSA applications, and provided technical assistance to representatives of regional applicants. Among its many multifaceted activities, OSHP

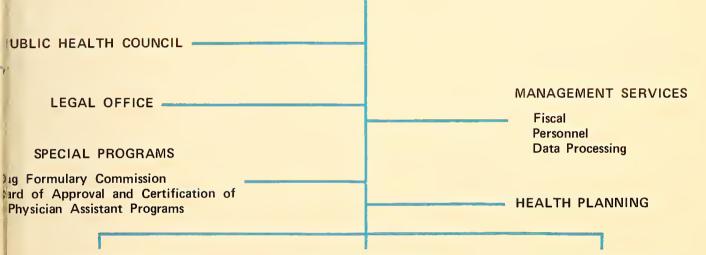
- Prepared the state's official comments on proposed federal regulations for the designation of the state agency and for institutional review functions.
- Sponsored a consumers' conference on P.L. 93-641 in conjunction with the Metropolitan Boston Consumer Health Council and Action for Boston Community Development.
- Served as statewide resource for information concerning the implementation of P.L. 93-641, an effort aided by the publication of the newsletter, Health Briefs.
- Identified, analyzed and monitored state health legislation, and coordinated efforts of state agencies to support particular bills.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1975 – JUNE 30, 1976

HEALTH PROGRAMS		STATE	FEDERAL	TOTAL
CENTRAL OFFICE				
Administration Long Term Care Informat	ion System	\$657,536.08 619,607.38	\$1,041,958.71 80,720.33	\$1,699,494.79 700,327.71
HEALTH REGULATIONS	_			
Medical Care Certificate of Need Dental Health Hospital Facilities		1,878,622.85 115,592.94 64,439.92 249,515.62	1,106,015.76 55,805.52 26,536.23 273,845.76	2,984,638.61 171,398.46 90,976.15 523,361.38
HEALTH PROTECTION				
Tuberculosis Control Communicable/Venereal I Consumer's Product Prote State Laboratory Institute	ection	2,729,107.14 2,016,664.10 1,650,181.12 2,802,915.68	66,324.39 334,988.57 60,694.66 464,617.05	2,795,431.53 2,351,652.67 1,710,875.78 3,267,532.73
HEALTH SERVICES				
Hospitals		36,900,904.19		36,900,904.19
Lakeville Lemuel Shattuck Renal Disease Mass. Hospital School Pondville	4,558,410.90 8,824,294.35 232,645.68 3,487,829.24 3,878,176.69			
Cancer Research Rutland Heights Tewksbury Western Massachusetts	68,744.71 3,254,603.69 9,676,351.14			
Division of Alcoholism Regional Offices Family Health Services	2,919,847.79	7,171,831.99 217,946.93 6,029,923.17	892,630.32 518,458.45 6,471,029.56	8,064,462.31 736,405.38 12,500,952.73
TOTALS		\$63,104,789.11	\$11,393,625.31	\$74,498,414.42

EXECUTIVE OFFICE OF HUMAN SERVICES DEPARTMENT OF PUBLIC HEALTH





HEALTH PROTECTION

municable/Venereal Disease Control reculosis Control Program
I and Drugs
entive Medicine alth Education roject cal Health
Laboratory Institute ad Poisoning Prevention

HEALTH REGULATION

Health Care Standards

Long Term Care
Periodic Medical Review
Hospital and Ambulatory Care
Radiation Control
Health Statistics & Analysis
Planning and Analysis
Vital Events
Health Facilities and Development
Hill-Burton
Engineering & Construction
Emergency Medical Services
Dental Health

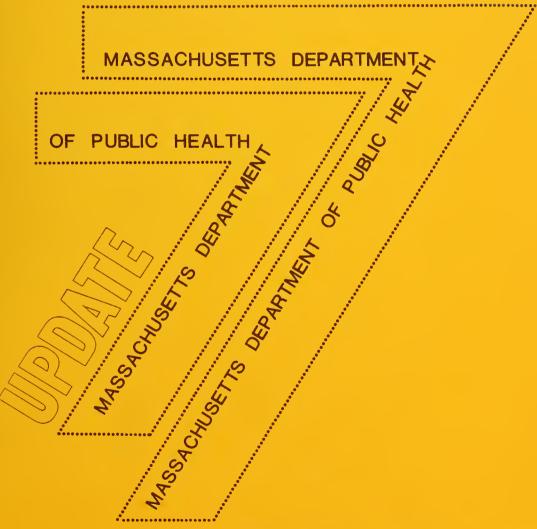
HEALTH SERVICES

Hospitals
Lakeville Hospital
Lemuel Shattuck Hospital
Mass. Hospital School
Pondville Hospital
Rutland Heights Hospital
Tewksbury Hospital
Western Mass. Hospital
Family Health Services
Maternal and Child Health
Services to Handicapped Children
Alcoholism Program

Organization Chart

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annual report 1977



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MASSACHUSETTS
DEPARTMENT OF
PUBLIC HEALTH

June 30, 1977

Jonathan E. Fielding, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

James A. Hooley, M.S.W.	1972-1977
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Sr. Mary Caritas, S.P., M.Ed.	1974—1978
William B. Gault, M.D.	1974—1980
Richard L. McDowell, Ph.D.	1975-1981
Susan M. Willoughby, Ed.D.	1976—1978
Harvey V. Fineberg, M.D., M.P.H.	1976-1978

Barbara Corcoran, Secretary

*Holdover.

Pearl K. Russo, *Editor*Chester R. Kennedy, *Art Director*

Highlights

Fiscal year 1977 marked the first full year in which the Department functioned as the federally designated State Health Planning and Development Agency (SHPDA) under the terms of P.L. 93—641, the National Health Planning and Resources Development Act of 1974. The Office of State Health Planning also completed its first full year as an integrated unit within the Department of Public Health. Responsible for the preparation of a State Health Plan, the Office of State Health Planning worked with other organizations in the health field to develop a Statewide Health Coordinating Council and to assist the latter in the review of the state medical facilities plan. When completed, the State Health Plan will list statewide priorities, goals and objectives for an integrated health-care system.

Strengthening the cooperative ventures begun in the previous year among other agencies within the Office of Human Services, the Department moved ahead to consolidate hospitals of the Department of Mental Health with those of Public Health. The providing of both inpatient and outpatient services to the mentally ill, the mentally retarded and to inmates from the state's correctional institutions in the Department's public health hospitals improved the quality of care, and at a savings to the Commonwealth.

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In reevaluating its priorities for the next period, the Department stressed the importance of health promotion and disease prevention programs. The first step was the physical and programmatic consolidation of Local Health Services and the Office of Health Education into one unit, the Division of Preventive Medicine. With the issuance of a position paper, "A Program for Prevention in Massachusetts," the Department launched a major program of health promotion and primary prevention. Demonstration projects in selected areas of prevention and in selected communities were operative during the year: a child automobile-restraint program in community hospitals to counsel new mothers to use appropriate child restraints in automobiles; hypertension projects in schools and hospitals; and a mass media project in cooperation with a major TV channel, which began with a survey of health attitudes in four Massachusetts communities. In these programs, the Department has encouraged the involvement of civic groups and local boards of health in that are injurious to health.

Emphasis has also been placed on preventive programs that are the responsibility of government, such as, preventive dentistry, handgun control, product safety and communicable diseases.

Technological and social changes have led to a significant increase in the Department of Public Health's programs and activities. Yet, many of the difficult

community-based programs to alter individual lifestyles that are injurious to health.

Emphasis has also been placed on preventive

problems with which the Department still has to contend are those it has confronted since its organization over 100 years ago — adulteration of food supplies, contamination of the environment, increased incidence of some communicable diseases, development of ambulatory and emergency care, rational use of medical manpower, and greater emphasis on preventive medicine.

The concern with both individual and governmental measures to protect the health of the population is not new. The Eighth Annual Report of the Massachusetts State Board of Health, published in 1877, stated in its general introduction:

"Personal hygiene must, it is true, supplement laws protecting the public health; but without such laws, in many cases, no care on the part of individuals can save them from fatal diseases. Very few States, unfortunately, if indeed any, fully recognize their responsibility in this matter, and we are still very far from knowing all the causes of even all the 'preventable' diseases, although we have become familiar with some few of them and with many of the circumstances without which others do not occur." (p 10)

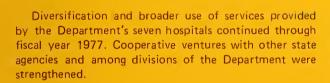
This 63rd Annual Report* is, therefore, a brief accounting of the activities of the Department of Public Health during a period of updated, as well as new, approaches to the delivery of health care to the people of the Commonwealth.

^{*} In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

1976 - 1977

New Programs

HEALTH SERVICES



As part of a continuing effort to develop a comprehensive program of rehabilitation for patients of all ages, the Lakeville Hospital added an internist, cardiologist, rheumatologist and a psychologist to its staff. For the first time, the hospital had a full-time orthopedic specialist in charge of the surgical program, and a full-time physiatrist to direct the physical medicine programs.

A Pediatric Cardiology Clinic, a cooperative effort of the Lakeville Hospital, the Southeastern Regional Health Office and the Services to Handicapped Children, opened at the hospital. Protocols and a written cardiac clinic procedural guide were developed to insure smooth inter-unit functioning. Physicians from the New England Medical Center staff the clinic.

In March 1977, 84 medical-geriatric patients, as well as nursing and medical staff, were transferred from Boston State Hospital to the Lemuel Shattuck Hospital, which had been designated the Region VI resource for mixed medical and psychiatric-geriatric patients.



Supported by a seed grant of \$25,000 from the City of Boston's Commission on Affairs of the Elderly, the Shattuck has been exploring with Tufts University the feasibility of developing linkages with nursing homes and home-care agencies to provide medical and psychiatric support, consultation services, continuing education, on-site care, and back-up services through the hospital's ambulatory and inpatient units.

The Shattuck completed construction of a 15-bed medical and surgical unit for patients from the Department of Correction's institutions and from county houses of correction. The new unit always operated at full capacity. As a result of joint planning by the Department of Correction and the hospital, weekly outreach clinics were initiated in orthopedics and other specialties at Norfolk, Walpole, Bridgewater and other institutions.

The hospital also began to serve the Greater Roslindale Community Health Center by providing laboratory, radiology and clinical support services through its Outpatient Department. Plans were developed to make medical services available to Mental Health facilities, and to elderly and needy residents of communities surrounding the hospital — Jamaica Plain, Hyde Park, Mattapan, Dorchester, Roxbury, the South End and Mission Hill.

Western Massachusetts Hospital, now recognized as a major regional health resource, enhanced the quality of its medical services for all its patients by recruiting a board-certified surgeon as the Chief of Professional Services, a board-certified oncologist as Chief of Medical Services, a pediatric urologist, and two orthopedic specialists. A new Orthopedic Corrective Surgery Program for adult and pediatric rehabilitation patients increased the number of surgical procedures performed at the hospital.

The hospital initiated a Pediatric Rehabilitation Team of specialists in speech and hearing, occupational therapy, special education and social services to expand its services to handicapped children. Western Massachusetts Hospital also developed a nature trail and outdoor playground to make the wonders of nature available to these children.

Other new programs at the Lemuel Shattuck were: oral surgery for Department of Mental Health patients (230 admissions in 1977); and annual physicals for State Police officers, resulting in a noteworthy reduction in laboratory and radiology fees to the Commonwealth.

The Massachusetts Hospital School, the Department's unique residential school for the physically handicapped but intellectually able child, broadened its role as a statewide community resource center for consultation, training and advocacy for the physically handicapped child. The Hospital School also enlarged its "Day Hop" program to enroll approximately 50 students. These are young people from the surrounding towns who do not require inpatient care, but are able to take advantage of the one-story school built with special architectural features for the physically handicapped child.

In an effort to extend the horizons of the handicapped child, the Hospital School initiated two innovative programs. The "Donovan Experience," so-called after the Donovan Nurses Residence used for the experimental project, allowed senior students successfully to experience living in a residence on their own for four weeks without family or Hospital School staff to supervise them.

Governor Michael S. Dukakis officially opened an Environmental Educational Nature Trail for handicapped children on the Hospital School grounds on November 4, 1976. The first of its kind in the Commonwealth, the nature trail allows the physically

handicapped to explore the wonders of nature along a one and one-quarter mile route. Funded by a \$90,000 federal grant, the project received the support of community volunteers, the Massachusetts National Guard, and the Massachusetts Association for Handicapped Children.

Pondville Hospital, the first state-operated facility for the treatment of cancer in the country, celebrated its 50th anniversary on June 20, 1977. The anniversary year, a pivotal one in the development of the hospital, ushered in several new programs: a new cancer detection and evaluation clinic; co-sponsorship with the Division of Preventive Medicine of a Task Force on Cancer Prevention; a formal affiliation of the Radiology Department with the University of Massachusetts Medical School, and a vigorous public education and cancer prevention program.

As part of its outreach program with community hospitals, Pondville staff members attended biweekly Tumor Board meetings at Norwood Hospital, and monthly Tumor Board meetings at Milford Hospital. Staff members were also instrumental in establishing a weekly oncology clinic at Norwood Hospital.

During the year, Rutland Heights Hospital incorporated the 115-bed Gardner-Athol Psychiatric Unit into the general hospital and was able to resolve the many problems associated with such a change. The hospital increased the effectiveness of its rehabilitative activities by consolidating the physical, occupational, diversional and speech therapy units into one central location.

The hospital also inaugurated an Employee Guidance and Referral Program to assist employees with personal problems that negatively affect the employees' ability to perform their jobs effectively.

Tewksbury Hospital, the oldest and largest hospital for the chronically ill in New England, entered into an affiliation with the New England College of Optometry for a program of patient care and clinical education, which began on June 9, 1977. To improve and supplement nursing care, the hospital organized a group of Senior Compnions. These volunteers have become an active component of the nursing team by providing such services as visiting patients, writing their letters, escorting patients to recreational areas or on walks on the hospital grounds, and, most importantly, acting as liaison between the hospital and community.

Family Health Services

In the Spring of 1977, the Commissioner of Public Health convened a blue ribbon advisory group of pediatricians and other professionals concerned with the care of children. The advisory group to the Commissioner met to discuss where perceived gaps in children's health services existed, to consider measures to avoid duplication of services, and to define priorities for new programs for prevention.

As part of its continuing efforts on behalf of the handicapped child, the Division of Family Health Services organized a Cardiac Program Advisory Committee, composed of representatives from various medical and public health fields, to evaluate the Division's cardiac programs and to make recommendations for the improvement of the regional distribution of services. Recommendations led to the development of the cardiac program at Lakeville Hospital.

Additional new clinics opened in the central and western parts of the state: a neurology clinic at the University of Massachusetts Medical School, neurology and orthopedic clinics for children at the Northampton Nursing Home, and an orthopedic clinic at the Holyoke Hospital.

To guarantee more efficient functioning of the expanding Women, Infants and Children's Program (WIC), the Division instituted a new WIC centralized voucher production and managment system. Nutrition assessment protocols that clarify and standardize certification criteria are now being used by all local programs. Administrators of the state WIC Program are now designing a system to collect data on the health and nutrition of WIC recipients and to put the information into a computer.

The Division initiated the development of a Management Information System that included a Client Subsystem with Functional Systems and a common Client Intake Form. With the completion of the functional specification phase, the computer software will be put together and the Division will be ready to build its client master file.

The Division also contracted with the Center for Educational Resource and Development of the Worcester Polytechnic Institute to develop criteria and methods to monitor and evaluate programs. These will permit easy reference to all patient files and facilitate evaluation of individual programs.



Alcoholism Program

Massachusetts General Laws, Chapter 1221, Acts of 1973, required the inclusion of coverage for inpatient and outpatient alcoholism treatment in all group health insurance policies. Under provisions of the act that became effective on January 1, 1976, the minimum benefit package includes coverage up to \$500 per year. The Department's Division of Alcoholism worked with alcoholism treatment providers and Blue Cross to establish eligibility of these providers to receive reimbursement for services to patients with private health insurance coverage, and to develop the benefit package. Acting on behalf of the 21 detoxification centers throughout the state, the Division negotiated an agreement with Blue Cross to establish a fee-for-service rate for inpatient alcohol detoxification.

A major accomplishment of the Division during the fiscal year was the establishment of 12 regional film and literature centers throughout the state. These regional lending resources made material easily accessible to both alcoholism—service vendors and to the public. The Division developed lists of films and pamphlets with recommendations for different target groups.

To strengthen its community education program, the Division carried out training for its health education staff and added two coordinators of health education to the staff. Members of the staff conducted about 20 basic alcohol education programs and provided technical assistance to 50 community groups.

Consolidation of the Research Unit was instrumental in moving the Division closer to completion of its Management Information System. Under a grant from the Council of State and Territorial Alcoholism Authorities, special staff worked in close cooperation with both the Data Processing Unit of the Department and the Division's Research Unit to facilitate programming and systems development.

HEALTH PROTECTION

Tuberculosis Control Program

In the 12-year period from 1965 to 1977, the Tuberculosis Control Program worked on developing some of the most modern care and treatment facilities and services for tuberculosis in the nation through the use of selected general hospitals for ambulatory and short-term inpatient care, and the development of a network of outpatient facilities in community general hospitals. In March 1977, the Department's inpatient-care contract with Norfolk County Hospital was terminated. Middlesex County Hospital thus became the last remaining long-term tuberculosis hospital in the state. This was the culmination of a long-range plan for the consolidation of tuberculosis hospitals that had begun in 1961 to replace 18 state, county and municipal hospitals with five regional tuberculosis hospitals. Before the reorganization, the 18 sanatoria provided in excess of one-half million hospital days at a cost of more than \$12 million. Hospital days in fiscal 1977 were down below 20,000, and the Department's patient-care costs, even with escalating hospital rates, were less than \$3 million for the fiscal year.

The Program issued new guidelines for the attendance of patients at tuberculosis clinics under contract to the Department. These guidelines are based on the most recent edition of *Diagnostic Standards and Classification*

of Tuberculosis and Other Mycobacterial Diseases of the American Lung Association, and describe which patients should be examined and treated in tuberculosis clinics, the type of visit, and the frequency or duration of eligibility. The guidelines also delineate the three types of visits that are reimbursable at rates established by the State Rate Setting Commission.

Four of the hospitals providing inpatient care under contract with the Department were audited by teams from the Massachusetts Thoracic Society. Medical audits of clinics were conducted by the Director of the Tuberculosis Control Program. The audits generally confirmed the excellence of tuberculosis care. Minor shortcomings found in a few instances were under review and recommended changes were being made.

For the first time, the Tuberculosis Control Program published and distributed a directory of hospitals and clinics for the treatment of tuberculosis, with a data manual of new cases, hospital admissions and clinic visits by Health Service Area. Another "first" of the Program, a meeting of all tuberculosis physicians who work in the statewide network of clinics and hospitals with Department staff, resulted in improved communication between the two groups, and in important program recommendations.



Communicable and Venereal Disease Control

The swine flu episode was undoubtedly the public health issue that created the greatest public concern and set in motion the most extensive vaccination and prospective systematic surveillance program for this disease in the history of public health, both in Massachusetts and in the nation. The Division of Communicable and Venereal Diseases, in conjunction with the Virus Laboratory of the State Laboratory Institute, developed and carried out an intensive search for influenza from September 1976 through April 1977. No cases of swine flu appeared in the state.

Because of the difficulties with the federal program, the mass Influenza Immunization Program did not begin until October 1, 1976. In less than ten weeks, state and local public health workers administered 719,205 doses of flu vaccine — 185,291 doses of the monovalent (swine flu only) and 533,914 doses of the bivalent (swine flu and A-Victoria) vaccine. Of the high risk category, as defined by the Center for Disease Control, 25.1 percent were immunized. The highest response in the bivalent category came from individuals over 65 years of age, of whom 39.5 percent were immunized. Approximately 70 percent of all nursing home residents were immunized. Of the low risk groups in the general population, only 5.6 were immunized.

Because of the increased number of penicillin-resistant strains of *Neisseria gonorrhoeae* being reported in the United States, the Division implemented a statewide surveillance system for the detection, reporting and follow-up of all suspected cases. All positive post-treatment cultures were forwarded to the State Laboratory Institute for penicillinase testing. The few individuals with positive post-treatment cultures were immediately treated with spectinomycin pending confirmatory tests by the Center for Disease Control. None, however, proved to be positive.

Because the majority of women with gonococcal pelvic inflammatory disease (P.I.D.) use hospital emergency rooms, the Division carried out a survey of 50 selected hospital emergency rooms to determine the extent of the problem. As a result of the survey, the Division provided each hospital with a protocol for proper diagnosis, treatment and rapid follow-up of contacts, many of whom were asymptomatic males. The program aimed at reducing the number of cases of P.I.D. in the Commonwealth.



HEALTH WARNING

Certain fish in this area have been found to contain high levels of PCB (toxic chemical) which can cause serious illness if eaten. Oo not eat any scup, flounder, tautog, rock bass, lobster, shellfish or eels caught in AREA I or any scup, flounder, tautog or rock bass caught in AREA II as indicated on the map below. Fish purchased from commercial fishermen do not come from this area and are safe to eat. If you have any questions please call your Board of Health.

Food And Drugs

The presence of new environmental contaminants, especially of polychlorinated biphenyls (PCBs), required the coordinated activity of several state agencies. At one time, PCBs were widely used in the manufacture of electrical equipment (four plants in Massachusetts). Once thought to be completely inert, these substances are carcinogenic and toxic when ingested in high doses. The discovery of PCB in a major Massachusetts harbor and river led to a cooperative sampling program by the Division of Marine Fisheries, the Department of Environmental Quality Engineering and the Department's Division of Food and Drugs. The sampling showed levels of PCB higher than five parts per million in lobsters and certain fin fish in one harbor. At the request of the Department, fishermen voluntarily discontinued their fishing until subsequent market samples showed that levels of PCB were well within the safety limits set by the Federal Food and Drug Administration. The Division of Food and Drugs continued monitoring to ensure that no contaminated products entered the commercial market.

State Laboratory Institute

The Biologic Laboratories developed a new method for identifying and extracting special antibodies from outdated blood plasma. The Laboratories also processed antibody against varicella-zoster infections into an immune globulin capable of meeting critical national shortages for use in children with cancer and in patients receiving organ transplants.

By aggressively seeking federal funds, the State Laboratory Institute was able to introduce new, or to expand existing, programs, such as, special immunizing biologicals, follow-up of newborn abnormal thyroid screening tests, and updating of clinical laboratory proficiency standards. Research grants allowed the Institute to put into use its electron microscope, a high resolution instrument capable of analysing the viruses of hepatitis and other diseases.

Through cost-sharing with educational institutes and other units within the Department of Public Health, the State Laboratory Institute made more efficient use of its modern, highly specialized building.

Preventive Medicine

Through its Division of Preventive Medicine, the Department made a strong commitment to the development of programs of health promotion and disease prevention. The position paper, "A Program for Prevention in Massachusetts," stressed that, despite the huge dollar investment in medical care - 8.6 percent of the Gross National Product in 1976 and over 10 percent of the Gross State Product in Massachusetts - the health status of the population has been jeopardized by what has been termed "personal lifestyle." Placing emphasis on the need to prevent disease from occurring in the first place, the Department selected several target areas on which to concentrate its efforts: nutrition and diet; physical inactivity; substance abuse, including alcohol, tobacco and drugs; accidents with special attention to automobile accidents involving infants and children; environmental health; communicable and venereal diseases; genetic disorders; and the use of firearms.

In selecting priorities for program develpment, the Department selected programs that fall into two categories: 1) those requiring individual involvement and 2) those calling for governmental action. The Department also pinpointed concrete proposals for carrying out its goals: 1) the compilation and dissemination of information demonstrating the favorable ratio of benefits to costs for such health promotion programs as those listed above: 2) coordination with the private sector - to work with hospitals, medical professionals, and private health agencies to develop new programs in prevention; and to encourage the insurance industry to develop financial incentives for healthful behavior patterns; 3) coordination with the public sector - to work with cities, towns and local boards of health to develop programs that reflect the resources and needs of local communities; 4) planning - to encourage the incorporation of prevention as a major element in state and regional health plans being developed by Regional Health Systems Agencies under P.L. 93-641; 5) work in cooperation with the mass media in the promotion of healthful activities.

Cognizant of the lack of resources required to embark upon an all-embracing program of prevention, the Department carried out extensive planning to single out a limited number of projects that could be successfully undertaken and evaluated. Such an approach has the potential to yield important returns for the health of the people.

In its first year of existence, the Division of Preventive Medicine made substantial organizational and programmatic progress. An important achievement was the review and writing of new regulations for Article II of the Sanitary Code, which remains the responsibility of the Department of Public Health. Article II, the housing sanitation code, sets minimum standards of fitness for human habitation. The Division also began rewriting the Public Health Regulations for Correctional Facilities, which establish the environmental housing conditions for all correctional facilities in the Commonwealth. Both sets of regulations will be presented for approval to the Public Health Council early in the next fiscal year.

To reassert the role of the Regional Health Offices as the focus of public health activities in the regions, the Division appointed three new Regional Health Officers. Only the Central Regional Office remained without an acting health officer.

Preliminary activities of the Division began in a few selected areas: the child restraint program expanded to include three additional hospitals, and printed its educational material for parents in Spanish; the nutrition component of the Division worked with the Nutrition Board to develop a statewide nutrition policy plan that aims to improve the nutritional status of all the citizens of the Commonwealth, regardless of social and economic factors; working in conjunction with the Governor's Committee on Physical Fitness, the Division initiated the preparation of materials on cardiovascular fitness directed to physical education and health department personnel.

HEALTH PLANNING

The integration of the Office of Comprehensive Health Planning and the Office of Health Statistics into one Office of State Health Planning was completed in fiscal year 1977. In developing a statewide health policy and a State Health Plan, the Office of State Health Planning worked in cooperation and consultation with other health-related state agencies, the Health Systems Agencies (HSAs) and private health-care agencies. The same approach was used in developing Standards and Criteria for Acute Care, Long-Term Care, Neonatal Care and Psychiatric Inpatient Units.

On November 26, 1976, the Public Health Council adopted a uniform set of Acute Care Standards and Criteria to be consistently applied by the Department and the Health Systems Agencies in carrying out the provisions of the Determination of Need program and of P.L. 93–641, the National Health Planning and Resources Development Act of 1974. By the end of the fiscal year, a draft of Long-Term Care Standards and Criteria had been completed, as well as a draft of Standards and Criteria for Neonatal Care.

The final report of the Health Manpower Linkage Project, which had been completed during the year, included detailed analysis of all available health manpower data and information related to accreditation of health manpower education programs, licensure and

certification of health professionals, and to utilization of health professionals in Massachusetts. The report also listed major recommendations for the development of health manpower and the allocation of educational resources in the Commonwealth.

HEALTH STATISTICS

During the year, the Registrar of Vital Records was transferred from the Secretary of State's Office to the Department's Vital Statistics component of the Office of Health Statistics. The change improved the availability and accuracy of all birth, death, marriage and divorce records.

A major concern of the Department has been the lack of coordination in the collection and analysis of health data. Under a contract from the National Center for Health Statistics, the Department worked with other public and private health agencies to explore the feasibility of establishing a data consortium. The study indicated that the primary job of such a consortium would be to provide a practical, cost-effective mechanism for the collection, analysis and dissemination of data from multiple sources. The first phase of the study concentrated on a consortium to develop a statewide hospital discharge data base, using the Uniform Hospital Discharge Data, plus the nature of admission and service utilization.

HEALTH REGULATION

Long-Term Care

In the second half of the fiscal year, the Division of Long-Term Care was reorganized as a result of the merger of the Periodic Medical Review staff (responsible for patient care inspections) and the survey certification field staff (responsible for monitoring long-term care facilities for compliance with state licensure and federal certification standards for participation in the Medicaid and Medicare programs). The newly reorganized Division has been reevaluating its regulatory methods, putting more emphasis on the quality of services to patients.

A computerized survey inspection system was implemented throughout the Commonwealth in December 1976. Assessment teams were collecting baseline data. In addition to providing information for analyses of compliance in Long-Term Care facilities, the new inspection system has been used to identify areas in the regulatory process where improvements can be made. It has also helped to focus staff effort on those facilities with the greatest problems.

Emergency Medical Services

The Office of Emergency Medical Services (OEMS), which has operated within the Department of Public Health since 1973, introduced several new programs to broaden and improve emergency medical care in the Commonwealth. The development of standards and criteria for pre-hospital Advanced Life Support Systems staffed by paramedics will benefit the critically injured or ill person. In cooperation with the American Heart Association and the American Red Cross, OEMS initiated a statewide Heart Saver Program, with the goal of training 20 percent of the state's population in cardiopulmonary resuscitation (first aid for heart attack victims) by 1982.

Responding to the mandate of Chapter 752, Massachusetts General Laws, which calls for a statewide coordination of poison information and control services, the Department established a statewide poison committee, composed of representatives from the six existing poison control centers in the state, emergency department physicians and nurses, pediatricians and pharmacists. After a year of meetings, research and analysis, the committee developed a structure for a comprehensive statewide poison system. The Massachusetts Posion System, supported by public and private resources, will become operational January 1, 1978.



MANAGEMENT SERVICES

Personnel

The Personnel Office selected an Affirmative Action Officer, whose initial charge was the development of an Affirmative Action Plan to ensure equal opportunity for all persons in employment and personnel practices. Work on the plan has resulted in standardized policies for new hirings, promotions and transfers. To facilitate its activities, the Personnel Office began exploring alternative methods of data reporting and retrieval at the same time as it aimed to decentralize some of the processing functions.

Through its training section, the Personnel Office prepared a Handbook for Managers and Confidential Employees to acquaint them with some of the basic policies and procedures concerning employment in the service of the Commonwealth. An Employee Handbook was being planned for future production. The Personnel Office was actively engaged in the statewide review classification for all management positions in the state, and has begun a departmental Staff Development Plan and Employee Performance Appraisal System to serve the needs of Department managers and employees.

1976 - 1977

Gontinuing Programs

HEALTH SERVICES

One of the major functions of the Department of Public Health is the provision of direct health services that are not generally provided by the private sector. Primary services include: hospital care through seven departmental hospitals, detoxification and rehabilitation through the Department's community-based alcoholism program, and services to mothers and children through Family Health Services.

Alcoholism Program

The Division of Alcoholism continued to support a statewide system of 21 alcoholism intervention centers with 480 beds. During fiscal year 1977, these detoxification facilities admitted 44,974 individuals, an overall utilization rate of 96 percent.

Several programs, which are funded through contracts with the Division, through state funds, federal formula and federal bonus grants, and special project grants, continued to operate and grow. The Division supported 36 halfway house programs (784 beds) through a fee-for-service contract with each program, and continued to develop and expand training programs for personnel of detoxification centers by contract to the Massachusetts Association of Detoxification Directors. Two halfway houses, formerly supported by federal formula grants, were transferred to state funds during the first half of fiscal year 1977.

The Driver Alcohol Education Program operated through 27 vendors, under contract with the Division of Alcoholism, that serve the 73 district and municipal courts in the Commonwealth. The statewide system was supported entirely by court-mandated fees of up to \$200 per client. During the fiscal year, the 27 programs served 14,869 clients and produced \$1.8 million in fees to support the program.

The number of clients seen in the 28 state-supported outpatient clinics increased to 14,802 clients. The increased caseload stemmed from the success of the Driver Alcohol Education Program, from community education programs, plus a greater awareness of alcohol-related problems on the part of the general public and referring agencies.

The Division of Alcoholism continued the funding of 10 special projects designed to meet the treatment and intervention needs of minorities and young persons. Special projects included a street worker's effort to enhance the youth treatment network within a suburban community, and a 24-hour hotline serving the needs of the Black and Hispanic communities of Worcester.

Four halfway house programs established exclusively for women continued to receive funding from the Division. How to provide supportive day care services for the children of women in treatment was under investigation by agency staff.

To strengthen its employee alcoholism programs, the Division hired one alcoholism coordinator to specialize in occupational programming, continued the funding of three special alcoholism intervention projects designed to encourage implementation of occupational programs, and began funding a fourth project. The projects were geared to the industrial communities of central and western Massachusetts.

Hospitals

The Department's seven hospitals continued to provide a broad range of clinical services to meet the needs of patients with long-term but remediable disabilities. Working more closely with other agencies within the Executive Office of Human Services, especially the Departments of Correction and Public Welfare, the Department extended its basic preventive and protective services to segments of society that do not usually receive help from private medical resources. The hospitals' services and programs are briefly summarized:

HOSPITAL

SERVICES

Lakeville

Comprehensive rehabilitation and education for handicapped children, rehabilitation for physically handicapped adults, chronic renal dialysis.

Lemuel Shattuck

Medical and surgical care of chronic illness, emphasizing pulmonary disease care, renal dialysis, chronic alcoholism and vascular programs.

Massachusetts
Hospital School

Education and vocational training in conjunction with medical and surgical care of physically handicapped but intellectually able children.

Pondville

Multimodality treatment of cancer in adults and children.

Rutland Heights

Long-term hospitalization and rehabilitation of adults with chronic diseases and alcoholism.

Tewksbury

Medical and surgical care of chronically ill and severely handicapped adults, alcoholism program.

Western Massachusetts Long-term care of chronic illnesses in adults, rehabilitation and alcoholism programs. Medical and surgical care of multiply handicapped children.

- Lakeville Hospital continued to care for some chronic patients. In the past year, however, major efforts were directed toward expanding its program of comprehensive rehabilitation services to the physically handicapped of all ages. The hospital initiated a Foster Grandparents' program for children who do not have family present or able to visit regularly, and began construction of a Sheltered Workshop.
- Lemuel Shattuck began planning with the Department of Correction for the development of an integrated primary-care delivery system. This would include using the Shattuck-Tufts-New England Medical Center complex for rotation of primary care residents through Department of Correction facilities, and increased use of nurse clinicians and physician assistants trained and supported by physicians at the Shattuck and the New England Medical Center.
- The Massachusetts Hospital School, in cooperation with the Department's Division of Family Health Services, sponsored a four-week camp program on the school campus for physically handicapped children. The camp was in session for two 2-week sessions and served a total of 37 children. The program sought to provide an opportunity for social development and recreational experience for physically handicapped children. Interdisciplinary consultation involving the school, nursing, social service, physical therapy and occupational therapy led to more flexibility in discussing the problems of functioning outside the school when children are eventually discharged from the Hospital School.
- Pondville Hospital continued its basic research in the causes and prevention of cancer, and in the role played by immunological factors in the development and treatment of cancer. Work also continued in the development of tests for the earlier detection and more accurate follow-up of patients with cancer.

Table 1

PUBLIC HEALTH HOSPITALS
YEARLY CENSUS SUMMARY — JULY 1, 1976 - JUNE 30, 1977

HDSPITAL	Operating Capacity	Admissions	Discharges	Average Daily Census	Percent of Occupancy	Average Length Df Stay	Dutpatient Visits	Total Patient Days
Lakeville	130	316	279	107	83	87	4,582	39,350
Lemuel Shattuck	250	1,795	1,648	1,749	84	29	8,098	54,321
Mass. Hospital School	135	183	180	104	69°	121	1,676	38,152
Pondville	80	1,261	1,119	59	79	17	14,257	23,427
Rutland Heights	285	469	463	186	88	112	2,347	67,263
Tewksbury Main Building	755	457	269	690	92	77	•••••	251,540
Western Mass.	100	675	645	72	72	35	7,326	26,385
TOTALS	1,735	5,156	4,603	•••••	•••••		38,286	500,438

- * Low percentage reflects policy of Hospital School to allow patients to go home for holidays or vacations.
- Rutland Heights Hospital improved its laboratory services through the acquisition of needed equipment, the revamping of operational methods and the increased training of personnel. As a result, the hospital was able to increase the number of clients seen in its comprehensive multiphasic screening program. The hospital has begun discussion on introducing a comprehensive program for the elderly, as well as a physical fitness program for the hospital staff.
- Tewksbury Hospital awarded certificates in Clinical Pastoral Education to approximately 40 clergymen and nuns. The course on how to administer to the sick and dying has been in operation at the hospital for 16 years. Maintaining close ties with the community, the hospital cooperated with the Neighborhood Youth Corps in their program for the employment of underprivileged children; permitted encampment of the Greater Lowell Council, Boy Scouts of America, on the hospital grounds for several weekends during the summer; made quarters available for the Head Start Program and for the Day Care Center for children of working mothers from low-income families.
- Western Massachusetts Hospital expanded its Respite Care Program for multiply handicapped children. The program gives parents of these children an opportunity to bring them to the hospital for evaluation and treatment. Many of the children stay in the hospital as inpatients.

The hospital expanded its educational programs by establishing a community medical clerkship with the University of Massachusetts Medical School, and by developing several affiliations: nursing with the University of Massachusetts School of Nursing, medical assistants program with Springfield Technical Community College, nurses aide program with Westfield Vocational School, and psychology with Westfield State College.

The seven hospitals, with an actual operating capacity of 1,735 beds, admitted 5,156 patients during fiscal year 1977, a decrease of 400 from 1976. Improved administrative and staffing patterns, and new programs were expected to increase the total hospital census in the coming year. The average length of stay varied from 17 days at Pondville to 121 days at the Massachusetts Hospital School. The number of outpatient visits, although still high — 38,286 — represented a drop of 3,279 from 1976 (Table 1).

The Department's hospitals, as part of the total public health effort, continued to expand programs for the training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts Hospitals, through their accredited schools of practical nursing, graduated about 150 licensed practical nurses, many of whom continue to work at the hospitals.

The hospitals also provided inservice training, conducted seminars, participated in broadly sponsored programs and engaged in research.

Family Health Services

Improved health services to mothers and children in the Commonwealth remained an important part of the Department's total effort to upgrade community health. Through the two components of the Division of Family Health Services — Maternal and Child Health, and Services for Handicapped Children — the Department carried out programs aimed to reduce infant and maternal morbidity and mortality, to promote maternal and child health, and to evaluate and treat handicapped children.

Maternal and Child Health

The grantee of funds under the Maternal and Infant Care Projects and of the Children and Youth Projects, the Department was able to fund a program in Springfield operated by the Wesson Women's Unit of the Baystate Medical Center. This brought to 12 the number of MIC projects in the Commonwealth, eight of which are in Boston. The 11 C&Y projects in the state, eight of which are in Boston, continued to receive support. Approximately 40,000 children were seen in these programs.

Closely related to the MIC and C&Y projects, the Women, Infants and Children's Program (WIC) continued to expand. Massachusetts had an annual WIC budget of \$5.75 million, with an authorized caseload of 19,000. The number of local programs grew from eight in August 1976 to 21 by June 30, 1977.

The School Health Unit worked as consultants with school administrators, local boards of health, school

nurses and physicians, and health educators to strengthen school health programs in the community. The Unit completely revised and updated the School Administrator's Guide to School Health for statewide distribution.

The Screening Program for Infant Hearing Impairment was implemented statewide through the regional health offices. Procedure manuals and brochures were revised and distributed to all hospitals, health centers and clinics. The Vision and Hearing Program trained 892 local school personnel in vision and hearing screening.

Other Family Health Services projects that continued during the year included rheumatic fever prevention, epilepsy control, aid to children with cystic fibrosis or hemophilia, premature birth programs for wed and unwed mothers, and family planning.

Services to Handicapped Children

The Services to Children with Multiple Handicaps broadened its services to meet the individual needs of each child. For the first time, pediatric nursing home beds were fully utilized. In fiscal year 1977, 256 multiply handicapped children were placed in residential care; 150 were in day care programs. In addition, families received assistance through homemaker care (91), respite residential care (10), and evaluation and planning for special needs.

Social Service

Sixty-three social workers, based in the Divisions of Family Health Services, Patient Care (hospitals), and Long-Term Care, seek to help individuals and families to function at their optimum level, both socially and emotionally. Social work methods used to achieve this goal include: case work, provision of tangible services, patient advocacy, consultation and community organization.

During fiscal 1977, social workers from the Department of Public Health collaborated with their colleagues in the Department of Mental Health in formulating and carrying out preventive social work with Mental Health patients who had been admitted to the Lemuel Shattuck, Rutland Heights, and Tewksbury Hospitals.

Community outreach programs had the benefit of greater social work participation:

- Establishment of an educational counseling group for parents of children with cleft lip and palate through the Western Regional Health Office.
- Interagency Planning Group in Region II, responsible for the design and development of a model system of early identification, screening and assessment of all children with special needs from 0-3 years of age.
- Increased involvement as members of the Office for Children Interdepartmental Team, of the Massachusetts Department of Education Regional Advisory Council, and of the Southeastern Massachusetts Health Planning and Development Agency.



HEALTH PROTECTION

HEALTH SURVEILLANCE AND DISEASE CONTROL

Health surveillance and disease control encompass the classic core activities that are and must remain the direct responsibility of the state. These activities are carried out primarily in three related sections of the Department: Communicable and Venereal Diseases, Tuberculosis Control and the State Laboratory Institute.

Communicable Disease Control

The impressive progress recorded through the statewide immunization program continued through calendar year 1976. Measles were down from 19,512 cases in 1965 to 39 cases in 1976. Mumps were down from 9,024 cases in 1968 to 157 cases in 1976. Rubella was down from 1,737 cases reported in 1969 to 196 cases in 1976. The statewide immunization programs not only prevented illness and death, but also saved the Commonwealth approximately \$9,897,200 in actual costs for medical care and institutionalization of patients (Tables 2,3,4).

Massachusetts has been on a maintenance immunization program against polio since polio vaccine became available. As a result of the statewide programs, not a single case of polio has been reported in the Commonwealth since 1968. An immunization survey of children entering kindergarten or grade one in 1976 showed that 95.84 percent had already received polio vaccine as compared to 94.1 percent in 1975.



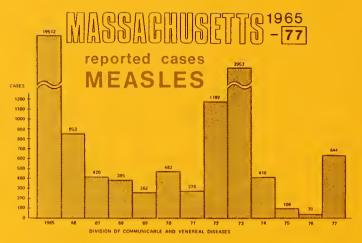
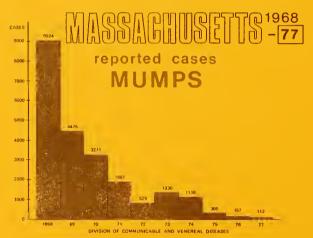
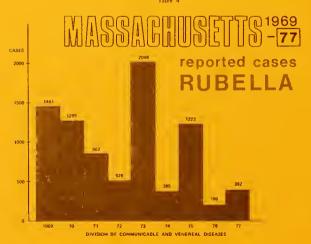


Table 3



Toble 4

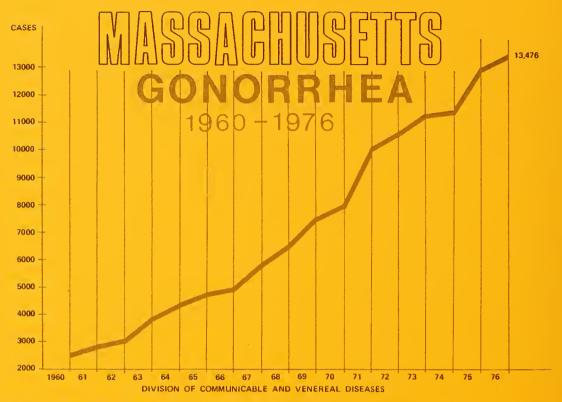


The percentages of these children immunized against the other six immunizable diseases all showed increases over 1975:

	<u>1975</u>	<u>1976</u>
Diphtheria Tetanus Whooping Cough	95.04	96.21
Measles	94.60	96.21
Mumps	78.00	84.56
Rubella	78.51	84.55

The prevalence of other preventable infectious diseases in the state remained low. Only six cases of whooping cough and one of tetanus were reported. There were no reported cases of diphtheria or smallpox. During the calendar year 1976, the Division investigated 17 food and waterborne outbreaks.

Rabies has been on the increase in Massachusetts since 1961, when a rabid bat was detected. Stringent federal and state regulations for the use of DDT to control bats living in dwellings with human beings have intensified the problem of control. Although the incidence of rabies in the state (all in bats) remained low, the number of rabid bats increased from 21 in fiscal year 1976 to 23 in fiscal year 1977. There have been no reported cases of rabies in ground animals since 1974, when one rabid skunk was found in Fort Devens. The low incidence of rabies in the state is attributed to the program of pre-exposure immunization of highly susceptible groups, inauguration of dog immunization clinics conducted annually by local boards of health, and educational programs for school-age children.



Venereal Disease Program

Of the 14 sexually transmissible diseases, seven — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, non-gonococcal urethritis and scabies — are now epidemic in Massachusetts and in the nation. Pediculosis was also on the upward curve of the epidemic cycle. Because of the increase in the cases of genital herpes (also important for its oncogenic potential) and non-gonococcal urethritis, the Division proposed the inclusion of these two diseases in the list of reportable diseases in the state.

The 13,476 cases of gonorrhea reported in the calendar year 1976 in the Commonwealth represented an increase of 3.9 percent but constituted almost a threefold increase over the 4,928 reported cases in 1966 over 1975 (Table 5). The estimated number of gonorrheal infections, however, was 53,904. This figure was based on a Center for Disease Control survey that indicated that only 25 percent of treated cases of gonorrhea are reported.

For the calendar year 1976, primary and secondary syphilis showed an increase of 9.5 percent over 1975: 546 cases in 1975 up to 598 in 1976. Early latent syphilis declined by 4.7 percent.

The Department's program for the screening of asymptomatic females continued with the renewal of a federal grant for \$265,000. Approximately 100 facilities or individuals — neighborhood health centers, family planning clinics, student health services, other community-based clinics and private physicians — participated in the program. During fiscal year 1977, the program examined 160,708 women by culture, of whom 5,152 were found positive, a rate positive of 3.2 percent.

In its continuing attack upon venereal diseases, the Department broadened its program of education, treatment and control. The 20 state-supported venereal disease clinics in the outpatient departments of general hospitals examined over 23,000 patients, who made a total of 56,507 visits. The Division gave training in venereal disease control to 320 individuals, distributed over 124,000 pieces of literature, and gave a week's training to an English physician who had been sent by the World Health Organization.

Tuberculosis Control Program

Despite the dramatic reduction in the number of hospital days for the treatment of tuberculosis in Massachusetts, tuberculosis remained a significant health problem and a source of crippling disease. In the calendar year 1976, the number of newly diagnosed cases reported was 676, a decline of 5.9 percent from the cases reported in 1975.

The failure of the new tuberculosis case rate to decline as rapidly as had been expected was attributable to an influx of high-risk population into the state, to high unemployment rates, and to continuing decline in the standards of inner-city housing. Under mandate of federal law, the Commonwealth admitted 310 aliens with diagnosed or suspected tuberculosis. Of this number, 26 had a diagnosis of tuberculosis, and the balance had abnormal chest films indicating old tuberculosis or other pulmonary fibrosis. Boston, Fall River and New Bedford continued to receive the greatest number of these aliens.

The Tuberculosis Control Program continued to provide short-term hospitalization by contract in seven general hospitals, and surgical services in two others. There were 364 hospital admissions during the year. Outpatient facilities in contract clinics had 47,000 patient visits for treatment.

Program personnel worked closely with local boards of health and other agencies to provide education and training. Nurses in the Program conducted a series of seminars and tuberculin-testing demonstrations for local boards of health and for hospital nurses. The employment of a French-speaking worker for a high-risk area of Boston strengthened the Tuberculosis Control Program's ability to work with people in their communities and to provide an integrated health protection system.

STATE LABORATORY INSTITUTE

The State Laboratory Institute, through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, carried out its multiple functions:

- Research and development of new technology
- Production of serums and vaccines for use throughout the state
- Diagnosis of rare or exotic disease
- Establishment of new diagnostic tests.

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories maintained its production and distribution of vaccines, toxoids and human plasma at approximately the same volume as in the previous year. Immune globulin, tetanus immune globulin and Rh immune globulin showed modest increases. Distribution of tetanus and diphtheria toxoids (Adult) increased as the use of diphtheria and tetanus toxoids (Pediatric) declined. The demand for hepatitis immune globulin continued to increase.

The Division continued its modernization and upgrading of processes and equipment. It was able to eliminate fiber-releasing filters from processes for the production of bacterial antigens, and achieved considerable progress in the case of plasma products. Other important developments during the year included:

- Tetanus toxoid A highly purified form of tetanus toxoid was found to give a satisfactory immune response and a reduced incidence of reactions as compared to the conventional product. Further trials in a small group of human volunteers were being planned.
- Immune Globulin A program of screening of incoming human plasma for production of immune globulins for prevention or therapy of human diseases was initiated. The program resulted in improved tetanus immune globulin and varicella-zoster immune globulin.

Table 6
Diagnostic Laboratories

Laboratory

July 1976 — June 1977

Metabolic Disorders

A.	Routine Specimens	Number	Percent of Live Births*
	Umbilical Cord Blood	65,211	96.5
	Newborn Blood	66,921	99.0
	Newborn Urine	55,980	82.8
		188,112	
В.	Other Specimens**	4,990	
Total Number of Specimens		193,102	
Total Number of Tests Performed		731,854	

^{*} Based on an estimated 67,578 live births in Massachusetts.

[&]quot;* Include "special" blood, repeat newborn urines, repeat newborn bloods, and prenatal sera.

Table 7

NEW ENGLAND REGIONAL HYPOTHYROIDISM SCREENING PROGRAM JULY 1976 — JUNE 1977

STATE	No. Screened	Low or Borderline T4	Confirmed Hypothyroid
Connecticut	35,826	293	7
Maine	15,961	140	2
Massachusetts	67,667	415	19
New Hampshire	8,698	42	2
Rhode Island	11,339	95	0
Total	139,491	985	30

DIAGNOSTIC LABORATORIES

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assisted local laboratories throughout the state to achieve a high degree of excellence in the performance of clinical laboratory tests. During 1976-1977, the proficiency testing program was maintained at approximately the same level as in the previous year. In calendar year 1976, the Program awarded certificates of approval to 301 laboratories (10 more than in the previous year) for the performance of one or more diagnostic specialties.

The Program remained responsible for proficiency testing of hospital blood banks, of laboratories performing maternal and prenatal blood tests for syphilis, and of laboratories in the Medicare program. Approximately 100 laboratories were enrolled in a voluntary program of training in clinical chemistry conducted by the Laboratory Improvement Program.

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism. The total number of tests performed on 193,102 specimens was 731,854 (Table 6).

During the year, three infants with phenylketonuria (PKU) were identified and placed on the appropriate diet. In addition, babies with other metabolic disorders, such as, galactosemia, maple sugar urine disease, cystinuria and Hartnup disease, were discovered and placed on the appropriate diets.

Hypothyroidism Screening Laboratory

The Hypothyroidism Screening Laboratory, which began operations in January 1976, screened 139,419 newborn blood specimens for congenital hypothyroidism (cretinism) during fiscal year 1977. Of these specimens, 67,667 came from Massachusetts, and 71,824 from four other New England States — Connecticut, Maine, New Hampshire and Rhode Island (Table 7). Thyroid hormone levels of 985 of the infants screened were below the lower limit of normal. Additional testing indicated that 955 of the 985 had low values associated with causes other than typical congenital hypothyroidism. Two of the 30 infants died of unrelated illness. The remaining 28 were placed on thyroid hormone replacement with gratifying results.

Parasitology Laboratory

The Parasitology Laboratory provided serologic services for the detection of toxoplasmosis, a parasitic infection capable of causing significant diseases, particularly in the newborn. The demand for toxoplasma testing steadily increased, from 574 specimens in 1972 to 1,800 in 1977, an increase of 17.6 percent over 1976. The laboratory continued to test for other parasitic diseases and to provide telephone consultation to physicians, veterinarians, laboratories, local health departments and health facilities on the diagnosis, control and treatment of various zoonotic and parasitic diseases.

Virology Laboratory

The Virology Laboratory provided consultation and the specialized type of laboratory services that are unavailable elsewhere in the Commonwealth. The Laboratory's network of blood specimen collections for atypical infections and its ability to rule out other causes led to the identification of four cases of Legionnaire's Disease in Massachusetts residents who had not travelled to Philadelphia. The Center for Disease Control confirmed antibody response to the disease. These cases helped to prove that the disease is not necessarily new and that sporadic cases occur even though person-to-person transmission is rare. Although cases of Legionnaire's Disease appeared to be infrequent and in widely scattered areas in the state, the Department continued to maintain close study of unusual cases of pneumonia.

Arbovirus surveillance was carried out according to surveillance protocols established in 1974 for mosquitoes and human patients with central nervous system (CNS) infections. Infection rates for both eastern (EEE) and western equine encephalitis (WEE) viruses in mosquitoes declined markedly. The minimum infection rate per 1,000 mosquitoes was the lowest recorded since 1972. No human or equine cases of EEE occurred in 1977. The Department of Public Health and other state agencies responsible for surveillance and control remained alert, however, for the reappearance of mosquito-borne virus as had happened in 1973.

Bacteriology Laboratory

The Throat Culture Program of the Bacteriology Laboratory processed 82,999 specimens from patients 12 years of age and under, a decrease of 7 percent from the previous year. The decline was attributable, in part, to the severe winter weather, which prevented many patients from getting medical attention. The Enteric Disease Program processed 8,615 specimens, an 8 percent reduction from 1976, since the state had experienced no moderate or large enteric food outbreaks during the year. The Gonorrhea Control Program and the Mycology Program reported increases in the number of specimens processed, 6 percent and 4 percent respectively.

Serology Laboratory

Although 766 suspicious animals (an increase of 166 over 1976) were examined in the Rabies Testing Program, Massachusetts remained free of rabies in ground animals. In fiscal 1977, however, both the number of bats examined and the percentage positive increased — 23 (11.2 percent) of the 269 bats submitted for examination were positive.

Lead Poisoning Prevention

A federal grant of approximately \$500,000 allowed the Childhood Lead Poisoning Prevention Program to increase its de-leading crews. Work of these crews doubled the inspection output and resulted in the de-leading of over 200 dwellings. The laboratory component of the Program continued to test 100,000 children one through five years of age at least once for lead poisoning.

Food and Drugs

The Division of Food and Drugs is charged with the responsibility of protecting the consuming public from the detrimental effects of adulterated foods, chemicals and drugs, unsanitary bedding and upholstery. The Division is also responsible for the licensing of vending machines, cold storage warehouses, upholstered furniture, stuffed toys; the licensing of manufacturers of narcotic drugs and establishments that use animals for experimental purposes. Inspections and laboratory activities of the Division accounted for more than 85 percent of the Division's total program cost.

At the request of the purchasing agent of the Department of Administration and Finance, the Department agreed to assume the personnel and functions of the State Purchasing Laboratory. The move incorporated the laboratory apparatus and personnel of the Purchasing Laboratory within the existing facilities of the Division.

On April 26, 1977, the Public Health Council adopted food labeling regulations prepared by the Division. The regulations established standardized type-size and placement requirements, nutrient labeling for certain categories of foods, and requirements for so-called natural and organic foods.

Preventive Medicine

Seeking to reestablish the regional presence of the Department throughout the state, the Divison of Preventive Medicine strengthened the personnel in the four regional health offices. The regional health offices continued to coordinate the Department's general field activities and to act as intermediaries between the central service programs and the local health agencies. To the extent that personnel were available, staff worked to enforce the articles of the Sanitary Code for which the Department is responsible, to carry out prison inspections, and to certify migrant camps.

Only a few activities of each regional office in the past year can be mentioned:

- Central Region Public Health Nursing Advisors organized supervisory personnel in the Home Health Agencies to develop nursing protocols for major and chronic illnesses. Regional personnel worked to hasten regionalization of nursing services. The four nursing agencies that formerly constituted the Assabet Valley Health Association merged and agreed to retain the original name.
- Northeastern Region Staff worked with local boards of health to expand services in the communities. They held meetings with nurses from the Chelsea, Revere and Winthrop Boards, as well as with the Visiting Nurse Association, to stimulate cooperative efforts in planning for health promotion programs. Public Health Nursing Advisors represented the Department on Office for Children Interdepartmental Teams in Region III and IV, and on the Department of Education Regional Review Boards.

- Southeastern Region Staff participated in greater efforts for regionalization and interagency planning. The Regional Office had representation on the task force on health prevention and promotion of the HSA in the region, which began preparation of a five-year plan. Public Health Nursing Advisors helped develop two new Home Care Corporations under the Department of Elder Affairs.
- Western Region During the summer of 1977, five graduate students from the Division of Public Health, University of Massachusetts, were doing field training in the Regional Office. Guidelines were prepared to define clearly the responsibilities of the students, as well as of the Regional Office staff. In addition, physical therapy and social work students did internship programs during the fall and spring school terms.

Fluoridation Project

The Fluoridation Project continued its program of education throughout the state. It sent copies of the revised *Fluoridation Handbook for Massachusetts Communities* to agencies, student groups, and citizen organizations that had requested it. Pamphlets and other written material also helped spread the message of fluoridation.

In December 1976, the communities of Dedham and Westwood began fluoridating their water supplies, to bring to 57 the number of communities in Massachusetts with fluoridated public water supplies. Twenty-two percent of the state's population was then receiving fluoridated water.

The highlight of the year, however, was the breaking of ground for the facility that will house the equipment necessary to fluoridate the Metropolitan District's water supply. Fluoridation of the MDC's water supply will begin early in 1978, at which time more than half the population of Massachusetts will receive fluoridated water.

HEALTH REGULATION

Through its program of standard setting, inspection, licensure and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has responsibility for preventing unnecessary expansion of health care facilities.

HOSPITALS AND AMBULATORY CARE

The Division of Hospitals and Ambulatory Care is responsible for the licensing of all hospitals and clinics in Massachusetts. In addition, the Division, under contract with the federal government, is responsible for the certification of all hospitals, clinics, independent laboratories, portable X-ray units and independent physical therapists for participation in the Medicare and Medicaid programs.

During the past year, the Division surveyed 57 general and chronic disease hospitals and 57 clinics. The Division's licensure activities were closely coordinated with two other state agencies, the Departments of Public Safety and Public Welfare.

Radiation Control Program

Radiological health specialists in the Radiation Control Program carried out surveys of diagnostic and therapeutic X-ray units in hospitals and private offices, and of nuclear departments in hospitals, educational institutions and private offices. In fiscal year 1977, the Program surveyed 1,171 X-ray units in hospitals and physicians' offices, and 1,187 units in dental offices. Program personnel surveyed colored television receivers, microwave ovens, and supermarket laser checkout systems on a request basis.

The Radiation Control Program collected data on the number of diagnostic procedures, such as, radiographic fluoroscopy, CT brain scans, pneumoencephalograms, cerebral angiograms, and radionuclide brain scans. The Program continued to monitor the field of radiation oncology to determine the number of new patients, the total number of treatments given, and the availability of treatment planning. Staff of the Program prepared an updated version of the status of CT scanning in the Commonwealth and in the nation for use by the Determination of Need Program.



DENTAL HEALTH

Staff of the Division of Dental Health worked on the administration of Medicaid dental services, and served with staff from the Department of Public Welfare as a professional service review group. The 80,000 claims reviewed during the year represented a 60 percent increase over the previous year. Review of these claims resulted in an average cost reduction of 18 percent to the Commonwealth.

LONG-TERM CARE

The Division of Long-Term Care was responsible for the annual certification of 596 Skilled and Intermediate Care Facilities, eight Department of Mental Health Schools for the mentally retarded, and of 145 home health agencies; for the licensure of 851 nursing and rest homes; and for the annual individual review of 8,000 Level II Medicare patients, 22,000 Level III Medicard patients, and 1,100 patients in State mental hospitals.

The Division was actively involved in developing innovative projects and in the reevaluation of current programs. An important study reviewed and revised the nursing home care program to utilize nurse practitioners or physician's assistants as an effective substitute for physicians in participating nursing homes in the Boston area.

HEALTH FACILITIES DEVELOPMENT

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for all Determination of Need activities in the state. The purpose of the legislation was to prevent unnecessary building of new, or expansion of, existing health facilities, and to avoid wasteful duplication of services and facilities. The legislation also sought to ensure accessible and quality health care to all persons in the Commonwealth, and to control spiraling health costs.

The Office of Health Facilities and Development reviewed all applications for construction or expansion of a health care facility, or acquisition of equipment, that entail a capital expenditure of \$100,000 or more. The Office also reviewed applications of health facilities that asked for a substantial change in service, or for original licensure. In fiscal 1977, the Public Health Council acted upon 95 applications, of which 79 were approved and 16 denied. An additional 26 applications were withdrawn before Council action. The estimated capital cost savings on hospital, nursing home and clinic facilities came to \$56,091,735.

During the fall of 1976, the Public Health Council made two important amendments to the Determination of Need regulations: 1) For the first time, the regulations included standards and criteria for determining the need for new, or replacement of, acute care beds. 2) All licensed hospitals in the state were required to submit one and five-year plans.



EMERGENCY MEDICAL SERVICES

Ambulance Regulation Program

Fiscal year 1977 marked the end of the three-year phase-in period established by the 1973 State worked with local communities and health care Ambulance Law for the upgrading of emergency medical providers to improve the delivery of emergency medical transportation services. During the year, staff from the care. Supported by federal Emergency Medical Services Department's Ambulance Regulation Program inspected grants, OEMS continued its efforts to upgrade resources almost two-thirds of the 450 ambulance services in the and to establish local and statewide emergency medical state that operate over 1,000 ambulances. Licenses were services networks: issued to 65 ambulance services. During the inspection and licensure process, staff provided technical assistance to ambulance service personnel, such as:

- Information about new standards and technology
- Help in assessing and reorganizing current resources
- Pre-acceptance inspection of new ambulance before final purchase by a service.

Office of Emergency Medical Services

The Office of Emergency Medical Services (OEMS)

- Provided free Emergency Medical Technician (EMT) training to over 1,500 ambulance attendants and others, and gave statewide direction and guidance to other training programs for over 10,000 EMTs in the Commonwealth.
- Provided statewide direction in appropriate first-aid training of First Responders (state and municipal police officers, firefighters and lifeguards) under a new state law.
- Continued development of a statewide EMS communications network, which now provides direct radio links between hospitals, ambulances, public safety agencies and other EMS providers in Boston, Fall River and Cape Cod; completed planning to extend such a system to Worcester and northern Worcester County.

HEALTH PLANNING

In the past year, the Office of State Health Planning (OSHP) strengthened its working relationships with other health-care organizations, and was actively involved in the development and implementation of a statewide health policy. OSHP worked with the Health Policy Group in formulating and coordinating a health policy for the state, and served on three subcommittees concerned with acute care, long-term care and ambulatory care.

The relationship between OSHP and the six Health Systems Agencies (HSA) continued during the year as the planning directors of the HSAs and OSHP worked on the regional Health Systems Plans. An HSP Uniform Format was approved by all the HSA Boards of Directors. Other key activities of OSHP staff relative to the HSAs included:

- Establishment of the State HSA Review Coordinators Committee, which has the responsibility for developing review protocols for Determination of Need applications, federal grants and for review of the appropriateness of applications and grants.
- Establishment of a State HSA Committee with the primary task of developing materials for public information and the educational needs of the HSAs.
- Review of HSA Quarterly Reports to determine conformance to standards, progress of the agency and other related activities.

The Office of State Health Planning also worked closely with the Rate Setting Commission, especially on the development of standards and criteria. A subcontract from the Commission permitted the OSHP to explore the relationship between rate setting and planning.

Coordination of activity between OSHP and the Department of Mental Health occurred in several areas:

 The organization of a Task Force to develop a format for the mental health/mental retardation component of the Health Systems Plans.

- The negotiation of a Memorandum of Understanding governing the administration of a joint Department of Public Health—Department of Mental Health education grant to provide training in the six health regions.
- The review of draft Medicaid policies on Medicaid reimbursements for neighborhood health centers, nutritional care, and nurse practitioners.

The Funds Flow Project, begun in 1975 as an attempt to describe and analyze health expenditures in Massachusetts both from state and federal sources, completed a comprehensive report on state health expenditures.

HEALTH STATISTICS

The Division of Health Statistics within the Office of State Health Planning is responsible for the collection of data on licensed health occupations, vital events, health facilities and long-term care. The Division also provides data for the health planning agencies in the state. During the past year, the Division recorded the following accomplishments:

- Processed and analyzed data for births, deaths, marriages and divorces, and published *Public Document No. 1*, the Annual Report of Vital Statistics, for calendar year 1976.
- Published the Health Data Annual, 1976, a statewide compilation of regional health-care data, prepared from the annual surveys of nursing homes, hospitals, home-care agencies, and residential care facilities; data on all licensed health professionals.
- Received \$250,000 in contracts from the National Center for Health Statistics for the Cooperative Health Statistics Program, which includes the Vital Events Program, the survey of health facilities and the survey of licensed health professionals.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH FISCAL YEAR 1976 - 1977*

HEALTH PROGRAMS		STATE	FEDERAL	TOTAL
CENTRAL OFFICE				
Administration Long-Term Care Informat	tion System	\$744,135.16 663,528.15	\$1,091,297.62 48,573.41	\$1,835,432.78 712,101.56
HEALTH REGULATIONS	***			
Long-Term Certificate of Need Dental Health Hospital Facilities		2,538,476.25 146,763.67 56,686.66 75,476.67	1,852,209.89 31,431.53 18,141.38 473,135.51	4,390,686.14 178,195.20 74,828.04 548,612.18
HEALTH PROTECTION				
Tuberculosis Control Communicable/Venereal Food and Drugs State Laboratory Institut Preventive Medicine		3,064,133.09 1,905,720.97 1,509,395.99 3,087,356.40 261,853.67	108,222.57 815,401.77 69,636.46 660,348.49 940,171.62	3,172,355.66 2,721,122.74 1,579,032.45 3,747,704.89 1,202,025.29
HEALTH SERVICES				
Hospitals Lakeville Lemuel Shattuck Mass. Hospital School Pondville Rutland Heights Tewksbury Western Massachusetts Division of Alcoholism Family Health Services	4,827,841.12 9,262,968.73 3,721,357.83 4,204,359.52 4,260,007.82 10,600,632.49 3,324,726.63	7,559,650.30 5,157,093.01	2,811,637.71 9,782,015.18	40,201,894.14 10,371,288.01 14,939,108.19
TOTALS		\$66,972,164.13	\$18,702,223.14	\$85,674,387.27

^{*} This report is based on a twelve month period for State expenditures (7/1/76 - 6/30/77) and Federal expenditures (10/1/76 - 9/30/77).

Organization Chart

_____1977

EXECUTIVE OFFICE OF HUMAN SERVICES DEPARTMENT OF PUBLIC HEALTH

OFFICE OF THE COMMISSIONER

..... PUBLIC HEALTH COUNCIL

LEGAL OFFICE

..... MANAGEMENT SERVICES

Fiscal
Personnel
Budget
Data Processing

SPECIAL PROGRAMS

Drug Formulary Commission
Board of Approval and Certification
of Physician Assistant Programs

···· HEALTH PLANNING

Health Statistics and Analysis

HEALTH PROTECTION

Communicable/Venereal
Diseases Control
Tuberculosis Control Program
Food and Drug Regulation
Preventive Medicine
Health Education
Local Health
State Laboratory Institute
Lead Paint Program

HEALTH REGULATION

Long-Term Care
Hospital and Ambulatory Care
Radiation Control
Determination of Need
Hill-Burton
Engineering & Construction
Emergency Medical Services
Dental Health

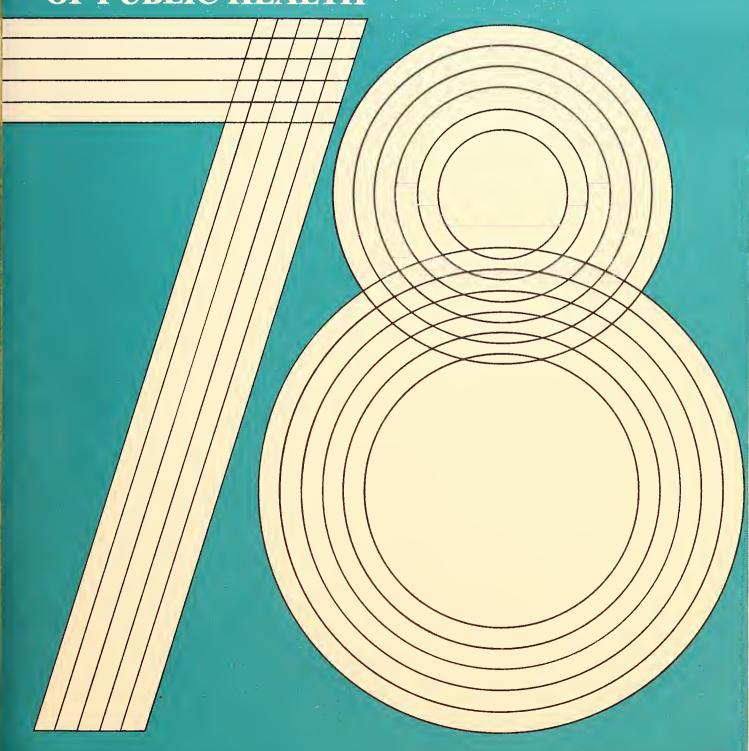
HEALTH SERVICES

Hospitals
Lakeville Hospital
Lemuel Shattuck Hospital
Mass. Hospital School
Pondville Hospital
Rutland Heights Hospital
Tewksbury Hospital
Western Mass. Hospital
Alcoholism Program
Children & Family
Health Services

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1978

Jonathan E. Fielding, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

James A. Hooley, M.S.W.	1972 - 1983
Joen Greenwood, M.A.	1973 - 1979
Sr. Mary Caritas, S.P., M.Ed.	1974 - 1978
Richard L. McDowell, Ph.D.	1975 - 1981
Susan M. Willoughby, Ed.D.	1976 - 1978
Harvey V. Fineberg, M.D., M.P.H.	1976 - 1978
Robert J. Guttentag, M.B.A.	1978 - 1981
Gordon T. Moore, M.D.	1978 - 1980
Barbara Corcoran, Secretary	

Pearl K. Russo, *Editor* Chester R. Kennedy, *Art Director*

HIGHLIGHTS

Fiscal year 1978 marked the first full year of operation of the Division of Preventive Medicine. The Division's proposal to consolidate into one fiscal as well as operational unit, by combining the accounts of Health Education and Preventive Medicine, was affirmed by the Legislature. Another major organizational change was the transfer of the Regional Health Offices and Local Health Services from the Division of Preventive Medicine to the Deputy Commissioner responsible for Disease Prevention and Health Protection. The move reflected the Department's efforts to decentralize responsibility for the activities of the Regional Offices.

The Department's position paper, "A Program for Prevention in Massachusetts," first printed in February 1977, was revised and updated by the Commissioner and Preventive Medicine Division staff for publication in the December 1978 issue of PREVENTIVE MEDICINE, the official publication of the American Health Foundation. The second edition described programs in five areas of prevention that had become operative since the document first appeared.

Responsible for the drafting of a State Health Plan as mandated by Public Law 93-641, the National Health Planning and Resources Development Act of 1974, the Office of State Health Planning (OSHP) completed six components for the Massachusetts State Health Plan. These included Long-Term Care, Ambulatory Care, Acute Care, Prevention, Health Status, and Economics and

Finance. In conjunction with the Statewide Health Coordinating Council, OSHP also developed principles by which to review the Health Systems Agencies, the Health Systems Plans (HSPs) and the Annual Implementation Plans (AIPs). Fiscal year 1978 was the first year in which these reviews were made.

At the end of the fiscal year, the Governor created a special interagency HMO project to encourage the development of Health Maintenance Organizations (HMOs) within the Commonwealth. Responsibility for managing and coordinating the project was given to the Department of Public Health. Representatives from the Department of Public Health, the Department of Public Welfare, the Rate Setting Commission, the Division of Insurance, and the Executive Office of Economic Affairs were appointed to the project staff.

Under a contract from the National Center for Health Statistics, the Department funded a two-year study to explore the feasibility of establishing a consortium to develop a statewide hospital discharge data base. In April 1978, the Health Data Consortium, Inc., a broadbased, nonprofit corporation, became a reality. An advisory committee of representatives from both public and private health care agencies determined the Consortium's administrative structure. Computerized data on hospital patients will now be pooled on a statewide basis.

At the end of the fiscal year, the Division of Family Health Services was transferred from Health Services to Health Protection, and a plan for a major reorganization of the Division was prepared. Emphasis was being placed on coordination of the Division's programs with other state agencies, as well as with community health and social agencies on a regional basis. As in all other activities of the Department, staff worked more closely with local boards of health.

The concern with improving relations with local boards of health is not new. The Ninth Annual Report of the Massachusetts State Board of Health, published in 1878, stated:

"The State Board of Health are desirous of increasing their usefulness, and of extending their means of observation, by placing themselves in more direct relations with the local boards of health. To that end, circulars will be addressed from time to time, to the various boards throughout the State, containing matters of interest regarding the public health. The Board will also be very glad to receive suggestions in regard to any subjects affecting the health of the community. . .

"The Board will be pleased to receive communications through their Secretary at all times, either personally or by letter, upon any subjects with regard to which local boards desire to make inquiries, or to avail themselves of the experience of the State Board of Health." (pp xiv-xv)

This 64th Annual Report* is, therefore, a brief accounting of the Department of Public Health during a period of closer cooperation among local boards of health, the Department and health agencies in the private sector to improve the delivery of health care to the people of the Commonwealth.

^{*}In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

1977 - 1978 NEW PROGRAMS

HEALTH SERVICES

Hospitals

The Department's seven hospitals continued to broaden and diversify the services available to the people of the Commonwealth throughout fiscal year 1978.

As a hospital for the rehabilitation of both handicapped children and adults. the Lakeville Hospital has, throughout its existence, faced the problem of what to do about patients who do not need hospital care, but for whom appropriate placement has been difficult or impossible. Although the problem still continues, the hospital began a concerted effort to find suitable alternatives to hospital care, such as, nursing home placement, home care, and special living arrangements. Late in the fiscal year, the hospital organized a separate Continuing Care Department, composed of both social service and nursing personnel, to be responsible for admission screening, discharge planning, teaching of patients' families, and postdischarge follow-up. The program to discharge patients inappropriately hospitalized allowed the hospital to accept more patients who can benefit from rehabilita-

Concurrent with the development of the Continuing Care Department, the hospital began an intensive public relations campaign to acquaint the public, potential patients, and referring agents with the types of services available. As a result, the number of patients with the potential for rehabilitation who applied for admission increased.

The medical/geriatric unit of the Lemuel Shattuck Hospital, a regional resource center providing medical care to geriatric patients of the area, expanded to three wards of the hospital. Although few of the patients were considered good prospects for community placement or reimbursement for medical care, the hospital was able to discharge 19 patients and place 26 patients in lower-cost facilities. By the end of the fiscal year, 90 percent of the remaining patients were being covered by some form of third-party insurance, or had a guardian/conservator to allow a self-pay status. The efforts of a Psycho-



social Medicine Department in developing a guardian/conservator patient program and in enlisting the cooperation of nursing homes, with backup support of the Shattuck staff, made possible the changes.

The hospital also began to provide the Roxbury Comprehensive Community Health Center with acute and chronic medical care, with 24-hour backup service, seven days a week. Other new programs at the Lemuel Shattuck were: provision of backup medical support to local detoxification units, with outpatient diagnostic workup and admission if required; preemployment examinations and referrals for diagnosis and confirmation for Civil Service applicants; provision of disability examinations for referrals from the Massachusetts Rehabilitation Commission and the Federal Social Security Administration; physicals and screening of employees of the Department of Public Works who are engaged in hazardous occupations; and the provision of meals to elder citizens who live close to the hospital.

The Massachusetts Hospital School made organizational changes to strengthen programs that enrich the quality of life for the young persons enrolled at the School. "Rebound," a therapeutic action program, gave adolescents with special needs a ten-day residential session based on a series of action-oriented challenges in an atmosphere of support and encouragement. Participants explored their preconceived notions of limitations, both physical and social, to improve their self-confidence and self-esteem. The program allowed the adolescents to experience positive social interactions in a community setting, and to accept increased responsibility for the management of daily living skills. Physical activities were designed to be strenuous but within the range of the capabilities of the individual student.

The emphasis at Pondville Hospital in fiscal year 1978 was on broadening its services to patients and on involving the community in the work of the hospital.

Respiratory therapy services and equipment were expanded and the first steps taken to establish a full Physical Therapy Department.

Utilizing public information techniques, the hospital offered to the community educational programs in smoking cessation, weight control, and cardiopulmonary resuscitation. The hospital sent speakers to many community groups and invited organizations and individuals either to share the facilities of the hospital or to participate in the Pondville Hospital's volunteer program. Started in January 1978, the program included 200 men and women by the end of the fiscal year.

Rutland Heights Hospital's Day Program for Adults was approved by the Departments of Public Welfare and Elder Affairs. Scheduled to begin in September 1978, the program will offer a combination of medical and non-medical services to prevent unnecessary institutionalization of senior citizens.

In the fall of 1977, 120 medical/geriatric patients were transferred from the Danvers State Hospital to the Tewksbury Hospital, the oldest and largest for the chronically ill in New England. Patients, who had been moved in four groups to facilitate the transfer, were placed in two newly opened wards.

The Occupational Therapy Department of the hospital, which handled a case load of 178 patients in staggered sessions, introduced several new activities. These included poetry therapy sessions, a game room, and a reading discussion group that used talking books and tapes provided by the library of the Perkins School for the Blind.

In October 1977, the Western Massachusetts Hospital, in conjunction with the New England College of Optometry, opened an eye clinic supported by a federal grant. An optometrist and two students, rotating every three months, staffed the clinic.

The hospital also established specialized pediatric developmental clinics to provide school-age children with special needs with comprehensive medical and developmental evaluations.

A summer camp, previously sponsored by the City of Westfield, was held on the hospital grounds. Approximately 150 handicapped children were thus able to participate in a day-camp experience.

Physical examinations for Army recruits, Civil Service preemployment applicants and for inmates of the Franklin County Jail/House of Corrections were begun at the hospital. The hospital established a protocol for examinations for state and local police, firefighters, and county and municipal employees.

Thirty-three hospital employees completed an instructors' course in cardiopulmonary resuscitation (CPR). Upon certification, the instructors provided basic CPR training to all hospital employees.

Alcoholism Program

The Division of Alcoholism developed five model programs to help prevent alcohol abuse and alcoholism at the community level. The pilot programs, designed for implementation in schools, churches, college residences, youth agencies, and parent organizations, offer, in small settings, principles and strategies for behavior modification and changes in attitude. Grants totaling \$60,000 were awarded by the Division to seven social service, human services and educational institutions throughout the state to replicate the models.

In the area of secondary prevention, the Division established 20 Driver Alcohol Treatment (Phase II) Programs to supplement the 27 Driver Alcohol Education (Phase I) Programs. Both programs provided services to the 73 district and municipal courts of the Commonwealth. The Phase II programs offer treatment services to drunken drivers who require further services after they have completed the eight sessions of education and group counseling in Phase I.

The Division, in cooperation with nine state agencies, six state employee unions, and the State Division of Personnel Administration, developed the State Employees' Assistance Program. A pilot project, it provided alcohol education and intervention services to 4,000 state employees who work in the Government Center area of Boston.

During fiscal year 1978, the Division of Alcoholism funded four new halfway houses for women. These facilities added 71 new beds, to raise the number of beds available only to women to 133 in nine halfway houses.

HEALTH PROTECTION

Preventive Medicine

During fiscal year 1978, the Division of Preventive Medicine received \$267,000 as part of a federal grant to states for hypertension control programs. With the advice of the Department's Hypertension Advisory Committee, the Division concentrated primarily on improving the control status of already identified hypertensives. The Division funded nine hypertension projects in various cities and towns throughout the Commonwealth to demonstrate the effectiveness of well-integrated, communitybased programs in the control of hypertension. The emphasis has been on expanding the skill base of nurse and physician clinicians who see hypertensive patients. In addition, a \$50,000 contract with the Department of Family and Community Medicine, University of Massachusetts Medical Center, provided training and technical assistance to the communities.

Cancer prevention, one of the target areas selected by the Department, concentrated on anti-smoking programs. Aided by funds from the Tuberculosis Control Program that had been earmarked for the prevention of respiratory disease, the Division of Preventive Medicine allocated approximately \$175,000 for smoking-cessation programs. Targeted at young parents (especially pregnant women), preadolescents, nurses and the general smoker, the programs represented both hospital-based smoking-cessation programs, and school and communitybased education programs. In addition, the Department funded a large-scale project to expand and use the cable TV system originating at the North Adams State College for a smoking-cessation program.

Because of the increased risk of heart attack and circulatory problems for women who smoke while taking birth control pills, the Division funded a project for the Family Planning Council of Western Massachusetts to contact



clients who use oral contraceptives. The Council has developed educational materials on the dangers of oral contraceptives to women who smoke, as well as on the dangers of smoking during pregnancy. Smoking-cessation/support groups were made available to interested women.

The Divisions of Preventive Medicine, Family Health Services, Tuberculosis Control, and Alcoholism jointly designed, developed and funded a prevention center to be the nucleus for health promotion activities in Western Massachusetts. The aim is to provide a cost-effective and comprehensive approach to prevention activities in the areas of cancer, alcoholism, heart disease, nutrition, drugs, and lung disease. The Health Promotion Resource Center of Western Massachusetts, a private, nonprofit, community-oriented and directed organization, has begun to serve as the focus for, and developer of, prevention in the western part of the state.

Tuberculosis Control Program

In cooperation with the Middlesex County Hospital, the Division of Tuberculosis Control began admitting patients in August 1977 to the Massachusetts Tuberculosis Treatment Center (formerly the Resident Center) at the Middlesex County Hospital. The program was developed to reduce the rate of treatment failures and reactivations among certain unreliable patients, without increasing costs or sacrificing high quality medical care. Patients were being admitted voluntarily after having received acute care in one of the Department's contract hospitals.

Two important changes, proposed by the Department, were made in the Massachusetts General Laws, Chapter 71, Section 55B, and Chapter 111, Section 81A. These now require the use of the tuberculin test, rather than the X-ray, to certify freedom from tuberculosis in a communicable form in persons not previously known to be tuberculosis positive. The Department designated the Mantoux test as the approved test under these laws and issued a policy statement, "Administration of a Tuberculin Test."

The Division of Tuberculosis Control developed a new program for the tuberculin testing of children in high risk communities. New guidelines were established to determine such communities.

A social profile of tuberculosis patients according to Health Service Areas was begun during the fiscal year. The purpose of the study, results of which will be reported in the next fiscal year, is to collect raw data on patients in each Health Service Area for future planning and programming for the eradication of tuberculosis in the Commonwealth.

Family Health Services

Through its Title V Special Project Unit, the Division of Family Health Services expanded its activities on behalf of mothers and children throughout the Commonwealth. A new Maternity and Infant Care Program was developed at the Wesson Women's Unit of the Baystate Medical Center in Springfield. The program has begun to provide social work, nursing, nutrition, and family planning services to women who use the prenatal clinics at Wesson, and to develop a prenatal program at the Brightwood Riverview Health Center.

The Division expanded other services during the fiscal year: The adolescent family planning program began offering social work services in Haverhill. The program of dental care for children at the Shriver Center in Waltham offered dental services to children in low-income neighborhoods in Waltham.

The School Health Program undertook several new approaches to meet the needs of the individual child. In addition to printing and distributing forms to all school systems in the state, the Division updated and revised school-health forms to comply with current im-

munization and lead-paint screening requirements. It also introduced a new percentile growth chart. The Division completed a totally revised edition of the School Administrator's Guide to School Health with the addition of such items as policy development and planning, preschool children, children with special needs under Chapter 766, physical education, sports medicine, multidisciplinary team approach, and definitions of the role of school personnel.

Communicable and Venereal Disease Control

The public health issue that created the greatest public concern was the outbreak of a flu-like illness in 51 persons who had gone to Mexico from Boston as part of a group of 306 tourists. The initial diagnosis was influenza. Those patients who were treated with antibiotics. particularly ampicillin, felt better, but the chills, fever and arthralgia returned. Because of the blizzard (February 6, 1978) most of the returned travelers were housebound and used symptomatic medicine. On February 10, 1978, however, a patient was diagnosed as having typhoid fever. The Department obtained the passenger list and all travelers were examined. Of the 272 passengers from Massachusetts, 51 proved to have typhoid fever. Information was sent to Mexico via the Center for Disease Control, and the Mexican authorities carried out the local investigation.

State Laboratory Institute

The activity of the Bacteriology Laboratory multiplied greatly as a result of the 70 percent increase in the number of positive specimens in the Enteric Disease Program. Chiefly responsible for the increase were the outbreak of salmonella associated with contaminated roast beef and the spectacular outbreak of typhoid fever among the tourists who had returned from Mexico. The latter situation required the analysis of an extraordinary number of specimens before the illness could be identified and contained.

The State Laboratory Institute made available approximately 16,000 square feet of space to the Division of Food and Drugs, which moved from the Department's central headquarters in midwinter. For the first time in the history of the Department, all laboratory services were now housed under one roof.

Research on, and development of, special immune globulins continued at an expanded pace at the Biologic Laboratories. Tetanus immune globulin of improved specific activity was produced and distributed as a routine product under license. An immune globulin for cytomegalovirus was developed and used in clinical trials of patients receiving bone marrow transplants.

Contract awards from the Center for Disease Control allowed the Laboratory Improvement Program to expand its training and consultation programs. This permitted an increasingly accurate assessment of deficiencies as reflected in more requests from participating laboratories for assistance.

The Parasitology Laboratory trained two new workers in general parasitology and in the specific procedures used in the laboratory. As part of the training, the laboratory director gave a series of 20 seminars that were attended by other staff members of the State Laboratory Institute. Toward the close of the fiscal year, the laboratory started serologic testing for amebiasis.

Food and Drugs

Responding to complaints brought before the Secretary of Consumer Affairs by homeowners whose homes had been insulated with a material that contained formaldehyde, the Division of Food and Drugs tested the foam-like substance. Testing showed that formaldehyde concentrations up to three parts per million were present in the more than 60 homes examined and were responsible for the discomfort (burning sensations in the eyes and mucous membrane, and skin irritations) experienced by many of the residents. The Department and the manufacturers of the insulation have begun discussions in an attempt to avoid other such episodes.

HEALTH PLANNING

Passage of an amendment to the Massachusetts Determination of Need Law required the Department to evaluate DON applications on the basis of criteria in effect on the date of their filing. The Office of State Health Planning and staff of the DON program identified those areas for which the Department had to develop guidelines. By the end of the fiscal year, the two divisions had coordinated the development of standards and criteria for a number of health services. Long-Term Care Standards and Criteria were presented to the Public Health Council in March 1978 for public hearing. Guidelines for CT Scanners, Ambulatory Care Clinics, and Laboratory Services were also presented to the Public Health Council. The Council requested that consultative sessions be held for each set of guidelines before giving its final approval. Guidelines for Mental Health Clinics were presented to and approved by the Public Health Council.

In addition, guidelines for End Stage Renal Disease, Intensive and Coronary Care Units, Emergency Rooms, Radiology and Alcoholism were being drafted by the end of the year. Presentation to the Public Health Council was planned for late in the summer.

OSHP completed an analysis of the first year's submission of the One-and Five-Year Institutional Plans required annually by the Department, the Rate Setting Commission and the regional Health Systems Agencies. The standardized reporting form was designed with the support and participation of many experts, including the Massachusetts Hospital Association and the Boston University Center for Health Planning. The intent of the annual filing of the reports is to increase public participation in hospital planning and to help institutions make decisions based on the health care needs of their communities.

HEALTH REGULATION

Long-Term Care

The Division of Long-Term Care undertook four projects in fiscal 1978 to develop or revise regulations, the largest of which was the revision of regulations for licensure of nursing homes. The revision aimed to remove unnecessary or duplicative requirements, to put the regulations in conformance with federal requirements, and to develop performance standards for ancillary health professionals. The Division convened a task force to make recommendations, which were being reviewed at the end of the fiscal year.

In cooperation with the Department of Public Welfare, the Division prepared regulations that encouraged expansion of community-based home health services. The regulations, which were reviewed at a public hearing, were developed to govern the participation of home health agencies in federal programs, and to require these agencies to provide home health aides, skilled nursing care, and at least one other therapeutic service.

The Public Health Council approved amendments to the regulations on physical environment to: 1) allow non-ambulatory patients to be housed in rooms that receive waivers for conformance to minimum size and occupancy requirements, and 2) require each skilled nursing facility to provide an isolation room for patients with communicable diseases. Allowing nonambulatory residents in waived rooms removed restrictions on 1,600 beds.

Finally, the Division drafted regulations governing the licensure of community-based intermediate care facilities for the mentally retarded. Promulgation of these regulations awaited action by the Legislature on an enabling amendment to the licensure statute.

Division of Hospitals and Ambulatory Care

To meet the growing interest of the health community, consumers and providers, the Division of Hospitals and Ambulatory Care convened a task force to develop Departmental guidelines for the operation of birthing rooms in hospitals. Several hospitals in the Commonwealth have already received approval to operate these centers. Hospitals began providing these services in response to demand by families for a less impersonal, more intimate but safe setting for delivery.

Emergency Medical Services

The Office of Emergency Medical Services (OEMS), which has operated within the Department of Public Health since 1973, introduced several new programs to broaden and improve emergency medical care in the Commonwealth. Responding to the mandate of Chapter 752 of the Massachusetts General Laws, which calls for statewide coordination of poison information and control services, the Department, with the help of a Statewide Poison Committee, established the Massachusetts Poison Control System (MPCS). The MPCS is jointly funded and operated by the Department and a consortium of private institutions. The Massachusetts Poison Information Center, located at the Children's Hospital Medical Center in Boston, began operations on January 1, 1978, to provide comprehensive poison information and treatment referral services to callers throughout the state. During the first six months of operation, the Poison Information Center handled 850 calls from 96 acute care hospitals across the Commonwealth.



MANAGEMENT SERVICES

Administration

In another critical area of health care, that of burns, the Department established a Statewide Burn Committee to develop recommendations for: 1) standards and criteria of care for institutions treating the burned victim, 2) organization of facilities within a Massachusetts Burn Care System, 3) continuing professional education, and 4) establishment of a comprehensive data collection system. The Public Health Council accepted these recommendations as guidelines in June 1978. In addition, OEMS, with the assistance of the Statewide Burn Committee, coordinated a successful grant application to the Department of Health, Education and Welfare for the establishment of the New England Regional Burn Program. This three-year demonstration program will collect comprehensive data on the incidence, prevalence and epidemiology of burn injuries in the six New England States.

In the latter part of fiscal year 1978, the Administration Section of the Department formed a small coremanagement unit that could begin monitoring the contracts and operational programs of the Department of Public Health. The group's first concern was the Department's contractual operations. The management unit developed a system whereby slightly over 800 contracts (\$35-\$40 million) that the Department purchases can be evaluated to ensure the Department's receiving the number of units at the cost for which it contracted. The management unit, which will expand its efforts in fiscal year 1979, should be able to provide the Administration with much of the basic management data required to make decisions regarding the optimal use of the limited funds available to help ensure that they are buying as much service as possible.

An automated time-reporting system was initiated and put into operation in the Division of Long-Term Care to ascertain which surveyor was performing a survey, the type and reason for the survey, its location, and the number of hours. The intent of the system was to enable managers to allocate their personnel's time, as well as to provide the Department with the basic data required to receive federal reimbursement. The project will be expanded to all Departmental programs other than hospitals after the experiences within the Division of Long-Term Care have been evaluated.

The most important new project within Administration was the design of a personnel management system to provide the Department with timely, accurate information on the number of employees in the Department of Public Health, their work status, where they work and at what cost, the positions they now occupy, the positions they should occupy, the number of filled and vacant positions, and other data pertinent to good management. Implementation of the system has been scheduled for late fiscal year 1979 or 1980.

Personnel

The manual personnel data system of the Department was computerized. Operation of this system made possible quick and accurate retrieval of major routine reports concerning positions, titles, Affirmative Action statistics, and other statistical data. Planning was begun to expand the system to include historical data and to interact with the budget system.

The Office of Manpower, Development and Training developed monthly sessions between Departmental divisions and hospitals for a sharing of information and a presentation of the functions and mandates of the entire Department. These sessions will be expanded into an orientation program for new employees and managers.

1977-1978 CONTINUING PROGRAMS

HEALTH SERVICES

Through the operation of the seven Public Health Hospitals, the Department has moved to supplement existing resources on a statewide basis and to assume special responsibilities to ensure comprehensive health care to the community. The hospitals have been working more closely with regional planning groups to develop programs for needed services that are not provided by voluntary or private hospitals, nor by other health agencies. Detoxification and rehabilitation services are also available through the Department's community-based alcoholism program.

Hospitals

The Department's seven hospitals continued to provide a broad range of clinical services to meet the needs of patients with long-term but remediable disabilities. In cooperation with other agencies within the Executive Office of Human Services, especially the Departments of Public Welfare and Correction, the Department extended its basic preventive and protective services to segments of society that do not usually receive help from private medical resources. The hospitals' services and programs are briefly summarized:

Hospital Services

Lakeville

Comprehensive rehabilitation and education for handicapped children, rehabilitation for physically handicapped adults, chronic renal dialysis.

Lemuel Shattuck

Medical and surgical care of chronic illness, emphasizing pulmonary disease care, renal dialysis, chronic alcoholism and vascular programs.

Massachusetts Hospital School

Education and vocational training in conjunction with medical and surgical care of physically handicapped but intellectually able children.

Pondville

Multimodality treatment of cancer in adults and children.

Rutland Heights

Long-term hospitalization and rehabilitation of adults with chronic diseases and alcoholism.

Tewksbury

Medical and surgical care of chronically ill and severely handicapped adults, alcoholism program.

Western Massachusetts

Long-term care of chronic illnesses in adults, rehabilitation and alcoholism program. Medical and surgical care of multiply handicapped children.

- Lakeville Hospital's Renal Dialysis Unit operated at full capacity during the year, and a waiting list was established. The Outpatient Department also increased its patients visits from 4,556 to 5,660, an increase of 24.2 percent. During the year, the Medical Staff added several specialty consultants and another full-time pediatrician. A major accomplishment was the certification of the hospital's program of continuing medical education in conjunction with Tufts University School of Medicine.
- Lemuel Shattuck Hospital admitted 485 patients from the Department of Correction program, who accounted for 4,318 patient days. The 29 percent increase in admissions over fiscal year 1977 was reflected in a 16 percent increase in outpatient visits-2,398 visits reported. It is estimated that cost benefits with accrued savings to the Commonwealth were in excess of \$1,000,000 per year, with improved medical care to the prisoners. The hospital developed a nursing-home network to provide an interchange of patient placements in consultation with physician assistants, nurse clinicians, and psychiatric social workers.
- Massachusetts Hospital School formulated an updated Statement of Institutional Purpose and Guidelines for Admission to aid handicapped children, their families and other agencies in using the many resources of the Hospital School. The average daily census of the Hospital School increased by over 15 percent, and outpatient services by 148 percent. Continuing programs included the Cole Harrington Laboratory School, a day-care center that serves preschoolers on a flexible time schedule with the aim of teaching handicapped patient/students child care. Camp Sunfish offered two two-week camping sessions to physically handicapped children from the Commonwealth, thus providing an opportunity for social development and recreation. The program "Tempo," which works primarily

YEARLY CENSUS SUMMARY — JULY 1, 1977 — JUNE 30, 1978

Hospitals	Admissions	Discharges	Average Daily Census	Average Length of Stay	Patient Days	Outpatient Visits
	250	2/2	11.5	***	44.060	
Lakeville	258	261	115	102	41,960	5,660
Lemuel Shattuck	1,768	1,791	191	28	67,542	8,431
Mass. Hospital						
School	159	155	102*	254	37,140	1,471
Pondville	1,005	1,018	57	21	20,679	13,807
Rutland Heights	494	509	207	95	75,749	1,673
Tewksbury	419	293	754**	1,026	274,961	
Western Mass.	421	451	58	49	21,264	6,530
TOTALS	4,524	4,478	***		539,295	37,572

- * MHS is only partially functional in summer months. Average daily census for October to June is 121.
- ** In September to November 1977, 120 patients were transferred from Danvers (DMH facility). Monthly averages varied from 655 to 804.

with birth defective children, put special emphasis on family advocacy in the special parent-training unit whose purpose it is to preserve family life.

- Pondville Hospital continued its basic research in the causes and prevention of cancer, and in the role played by immunological factors in the development and treatment of cancer. Management of the hospital was strengthened by the appointment of an Assistant Superintendent, and fiscal accountability was improved by implementation of an internal budget system and the appointment of a Comptroller.
- Rutland Heights Hospital continued to increase the effectiveness of its rehabilitative services by consolidating the Physical, Occupational, Diversional and Speech Therapy units into one centralized location. The hospital instituted the microfilming of outpatient records, a measure that greatly improved the efficiency of the operations of the Comprehensive Health Clinic.
- Tewksbury Hospital's alcoholism program gave special attention to younger men and those admitted to the hospital for the first time. An after-care plan designed to keep the patient alcohol-free was formulated and discussed with each patient. During the past year, 26 men took part in the counseling and referral program. The Bedford V.A. Hospital Alcoholism Unit and the Lowell Halfway House were used for referrals. The pediatric ward at Tewksbury Hospital, which had been operated by the Services for Handicapped Children

since January 1974, was closed by order of the Commissioner of Public Health as of August 15, 1978. All the children were transferred to an appropriate facility, with the exception of five who were absorbed into the other units of the hospital to await placement elsewhere.

• Western Massachusetts expanded its student intern program with colleges and universities throughout the state in a broad range of subjects: dietetic technology, medical record technology, medical assistant, dental hygienist, pharmacy technician, clinical nursing, public health administration, occupational and recreational therapy, community medicine, and psychology. Students from Dartmouth College received training in alcoholism rehabilitation.

The seven hospitals admitted 4,524 patients during fiscal year 1978, a decrease of 632 from 1977. New programs were expected to increase the total hospital census in the coming year. The average length of stay varied from 21 days at Pondville to 1,026 days at Tewksbury. The number of outpatient visits, although still high — 37,572 — represented a small drop of 714 from 1977 (Table 1).

As part of the Department's total public health effort, the seven hospitals continued to expand programs for the training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts Hospitals graduated about 150 licensed practical nurses from their accredited schools of practical nursing. Many of the nurses continued to work at the hospitals.

Alcoholism Program

The Division of Alcoholism continued its regional health education assistance to community groups, Health Service Agencies, and social service agencies throughout the eight regions of the Commonwealth. Two of the major activities for fiscal year 1978 were the development of a training manual for trainers, and the development of a media campaign targeted at the prevention of alcohol abuse and alcoholism among young women. The Division operated its eight regional film and literature centers through which materials are easily available to vendors of alcoholism services and to the general public.

Through the funding of 17 special projects, the Division maintained its intervention efforts to the general population, with particular emphasis on youth, women and industry. Technical assistance and resource-development activities continued with emphasis on providers of treatments, intervention and prevention programs, as well as on agencies working with alcoholism and alcohol abuse.

The Division continued the support of a statewide system of 21 detoxification facilities with a total of 480 beds. During fiscal year 1978, these centers handled 44,110 admissions and operated at a utilization rate of 95.4 percent. The number of clients seen in the 30 state and federally supported outpatient clinics was 12,868, which represented 109,920 client visits.

During fiscal year 1978, the Division of Alcoholism completed the developmental stage and began the implementation of its management information system. It was expected that output data from the outpatient, detoxification, halfway house, and Phase I drunken driving programs would be received early in the new fiscal year.

Percent Increase Over 1973-74

8.14

9.33

8.88

S1.48

45.22

Table 5 Percentage of Immunized Children Entering Kindergarten, 1973 - 1978.

Year

95.04

94.10

94.60

78,00

78.51

1976-77

96.21

95.84

96.21

84.56

84.55

1974-7S 197S-76

93.S1

92.04

93.S3

69.19

70.41

HEALTH **PROTECTION**

HEALTH SURVEILLANCE AND DISEASE CONTROL

Health surveillance and disease control encompass the classic core activities that are and must remain the direct responsibility of the state. These activities are carried out primarily in three related sections of the Department: Communicable and Venereal Diseases, Tuberculosis Control and the State Laboratory Institute. Services to mothers and children through the Division of Family Health Services, the activities of the Division of Preventive Medicine, and of the Division of Food and Drugs also come under the purview of Health Protection.

Communicable Disease Control

Measles down from 19,512 cases in 1965 to 644 cases in 1977. Mumps down from 9,024 cases in 1968 to 112 cases in 1977. Rubella down from 1,461 cases reported in 1969 to 392 in 1977. These figures indicate the remarkable progress of the Department in controlling the common communicable diseases through the the statewide immunization programs. These programs not only prevented illness and death but also saved the Commonwealth approximately \$11,200,000 in actual costs for medical care and institutionalization of patients (Tables 2, 3, 4).

On a maintenance immunization program since polio vaccine became available, Massachusetts has not had a single reported case of polio since 1968. An immunization survey conducted annually of children entering kindergarten showed that 94.25 percent in 1977 had already received polio vaccine as compared to 95.84 percent in 1976. The percentages of these children immunized against polio and the other six immunizable diseases all showed impressive increases over 1974 (Table 5).

-DTP

Diptheria

Tetanus Whooping Cough

Potio

Measles

Mumps

Rubella

1973-74

88.6

90.3

59.3

62.0

The prevalence of other preventable infectious diseases in the state remained low. Only eight cases of whooping cough were reported. There were no reported cases of tetanus or diptheria. During the year, the Division of Communicable and Venereal Diseases investigated seven outbreaks of food and waterborne gastroenteritis.

The number of rabid bats in Massachusetts decreased from 23 in fiscal year 1977 to 11 in 1978. The low incidence of rabies in the state may be attributed to the program of preexposure immunization of highly susceptible groups, inauguration of dog immunization clinics conducted annually by local boards of health, and educational programs for school-age children.

Venereal Disease Control

Of the 14 sexually transmissible diseases, seven — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, nongonococcal urethritis and scabies—were epidemic in Massachusetts and in the nation. Because of the increase in the cases of genital herpes (also important for its oncogenic potential) and of nongonococcal urethritis, the Division proposed to the Public Health Council the inclusion of these two diseases in the list of reportable diseases.

The 11,593 cases of gonorrhea reported in the calendar year 1977 represented a decrease of 13 percent from 1976 but constituted a twofold increase over the 5,820 cases reported a decade earlier (Table 6). The estimated number of gonorrheal infections, however, was 46,132. This figure is based on a Center for Disease Control survey that indicated only 25 percent of treated cases of gonorrhea are reported.

1977-78

95.82

94.25

98,32

89.83

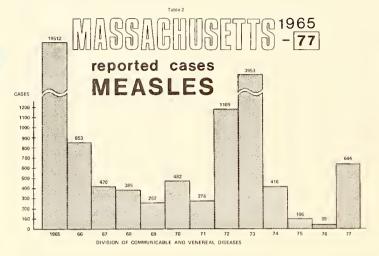
90.04

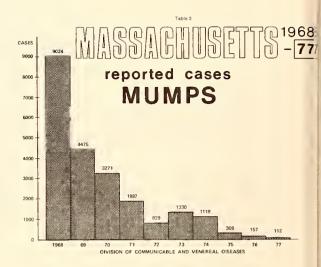
For the calendar year 1977, primary and secondary syphilis showed a decline of 8 percent from 1976 - 598 cases in 1976 down to 550 in 1977 - accompanied by an overall decrease in all stages of reported early syphilis of 1 percent. The Syphilis Serology Screening Program was a very important factor in the Division's control efforts. State laboratories processed 991,372 serological tests, with a resultant total of 16,754 (2 percent) reactive tests. Equally important was the syphilis interview-contact-tracing procedure used by the Division's personnel with 891 of the 939 (95 percent) early syphilis cases reported to the Department of Public Health.

The Department's program for the screening of asymptomatic women continued with the renewal of a federal grant for \$261,000. During fiscal year 1978, the program examined 160,422 women by culture at about 100 participating facilities. Of the women examined, 4,449 were found positive, a rate positive of 3.0 percent.

The Division continued its statewide surveillance system for the detection, reporting and follow-up of all suspected cases with penicillin-resistant strains of Neisseria gonorrhoea. Of the few individuals in the state with positive posttreated cultures, five proved to be positive after confirmatory tests by the Center for Disease Control.

In its attack upon venereal disease, the Department continued its threepronged program of education, treatment and control. The 20 cooperating state venereal disease clinics in the outpatient departments of general hospitals had 54,887 patient visits for examination and treatment during the fiscal year.





Tuberculosis Control Program

Despite the availability of therapeutic drugs, tuberculosis remained a health problem in Massachusetts. The number of newly diagnosed cases reported in the calendar year 1977 declined only slightly - 647 cases as compared to 676 in 1976. The Massachusetts rate of 11.1 per 100,000 population, however, continued to remain below that of the nation as a whole (13.9 per 100,000 population) and compared favorably with rates in other industrial states. Uncontrolled areas of infection within Massachusetts were still present. Boston, Fall River, New Bedford, Springfield, Worcester and the Lowell-Lawrence area all had unacceptably high incidences of the disease.

The decline of the sanitorium-based inpatient tuberculosis services continued. The Division of Tuberculosis Control provided, by contract, more than 13,000 patient days of care in general hospitals and at the Middlesex County Hospital. In addition, the Division provided for 42,000 outpatient visits under contract with 50 tuberculosis clinics throughout the state.

Hospitals and clinics providing tuberculosis care and treatment under contract with the Department were audited by teams of physicians under terms of an agreement between the Department and the Massachusetts Thoracic Society. An evaluation review by the Division showed that the mean and median length of stay in contract hospitals had been reduced to below 21 days. The 1978 contracts were therefore adjusted

to reflect the reduced hospitalization period. A decade earlier, the average length of stay was four times longer.

Program personnel participated in a meeting held at the State Laboratory Institute to give laboratory workers current information on laboratory procedures and on the control of tuberculosis. For the first time since 1952, the American Lung Association, formerly the National Tuberculosis Association, met in Boston. The Commissioner of Public Health represented the Commonwealth and was the featured speaker for the opening session of the conference. Division staff participated in several of the sessions.

Family Health Services

Improved health services to mothers and children in the Commonwealth remained an important part of the Department's total effort to upgrade community health. Through two components of the Division of Family Health Services - Maternal and Child Health, and Services to Handicapped Children - the Department carried out programs to reduce infant and maternal morbidity and mortality, to promote maternal and child health, and to evaluate and treat handicapped children.

Maternal and Child Health

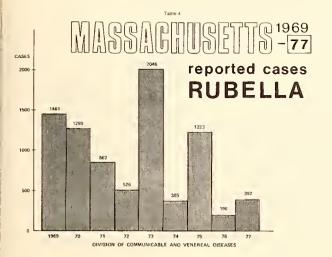
The grantee of funds under the Maternal and Infant Care (MIC) Projects and of the Children and Youth Projects (C&Y), the Department was able to fund a maternal and child health pro-

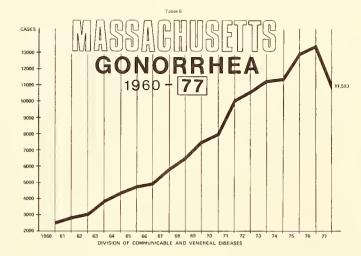
gram at the Brockton Multi-Service Center, to become operational on July 1, 1978. The eight original Boston MIC and C&Y programs continued to operate and expand. During the fiscal year, the C & Y programs saw approximately 30,000 children. The Division provided technical assistance to the centers to develop systems for monitoring immunizations and for follow-up to surpass the goal of 90 percent full immunization.

Closely related to the MIC and C&Y projects, the Women, Infants and Children's Program (WIC) concentrated on developing quality programs in the local WIC agencies in the following areas: the refinement of nutrition assessment procedures and development of care plans; the design and production of nutrition education materials for local program use; maintenance of the new centralized voucher system with modifications to enhance the system's usefulness. Over 21,000 mothers, infants and children participated in the WIC program.

The Infant Services Unit carried out several studies to document the needs of infants at risk and to serve as a basis for expansion and redirection of the unit. Selected birth statistics were prepared by residence of mother for the entire state as an aid in planning and implementing programs for at-risk infants.

The Screening Program for Infant Hearing Impairment distributed descriptive brochures in maternity units to expand utilization of the program and to develop more efficient procedures and data collection. Because serious disability can result if hearing impairment remains undetected until





language and speech development are retarded, the Division has emphasized the need for early referrals. Last year, 65 percent of the infants and children were referred for evaluation before their first birthdays, and 74 percent at under 18 months of age.

The School Health Unit worked more closely with school administrators, local boards of health, school nurses and physicians, and health educators to improve school health services throughout the Commonwealth. The Division collaborated with the Department of Education in sponsoring six regional workshops on various aspects of school health programs.

Other Family Health Services projects that continued during the year included rheumatic fever prevention, epilepsy control, aid to children with cystic fibrosis or hemophilia, premature birth programs for wed and unwed mothers, and family planning.

Services to Handicapped Children

The Services to Children with Multiple Handicaps seek to minimize the disability and to develop to its maximum the potential of each handicapped child. Over 5,500 children were seen by specialists in the Department's clinics for diagnosis and treatment. During the year, 51 multiply handicapped children were placed in residential care; 62 new cases received assistance through homemaker care, respite residential care, and evaluation and planning for special needs.

Social Service

Approximately 100 social workers, based in the Divisions of Family Health Services, Patient Care (hospitals), and Long-Term Care, seek to help individuals and families to function at their optimum level, both socially and emotionally. Social work methods used to achieve this goal include: case work, provision of tangible services, patient advocacy, consultation and community organization.

During fiscal 1978, social workers from the Department of Public Health continued to work closely with community health and social agencies, both public and private. The greatest involvement, however, was with the Department of Education for Core evaluations under Chapter 766. Other community outreach programs had the benefit of greater social work participation:

- Closer relations with the Child Development Service at the University of Massachusetts Medical Center.
- Participation with staff from the Departments of Mental Health and Public Welfare, the Office for Children, the Massachusetts Rehabilitation Commission, and the Massachusetts Commission for the Blind in planning a network of services for the people of Western Massachusetts.
- Consultant services to both the Lakeville Hospital Day Camp and the New Bedford Foster Grandparents program.

Radiation Control Program

Radiological health specialists in the Radiation Control Program carried out surveys of diagnostic and therapeutic X-ray units in hospitals and private offices, and of nuclear medicine departments in hospitals, educational institutions and private offices. In fiscal year 1978, the Program surveyed 1,171 X-ray units in hospitals and physicians' offices, and 1,187 units in dental offices. Program personnel also surveyed color television receivers, microwave ovens, and supermarket checkout systems on a request basis.

Personnel from the Radiation Control Program participated in governmental actions concerning the PAVE PAWS radar system at the Otis Air Force Base on Cape Cod. These included review of the environmental impact assessment statement, review of the Environmental Protection Agency's critique of the statement, and meetings with concerned citizens on Cape Cod and with legislators. Personnel also accompanied Air Force personnel who carried out microwave measurements on the Cape. As public concern over microwave exposure from radar systems, television antennas, microwave ovens, and telecommunications equipment mounted, responsibilities of Program staff increased.

Another growing area of concern was the increased popularity of laser rock shows, all of which had to be monitored. In addition, laser devices in educational institutions and in consumer products were becoming more numerous. In the future, more staff will be required to monitor these activities to prevent eye damage from unnecessary exposure to laser energy.

Diagnostic Laboratories

Metabolic Disorders Laboratories

July 1, 1977 — June 30, 1978

STATE
LABORATORY
INSTITUTE

The State Laboratory Institute, through its two sections, the Division of Biologic Laboratories and the Division of Diagnostic Laboratories, carried out its multiple functions:

- Research and development of new technology
- Production of serums and vaccines for use throughout the state
- Diagnosis of rare or exotic diseases
- Establishment of new diagnostic tests.

A. Routine Specimens	Number	Percent of Live Births*
Umbilical Cord Blood	67,197	96
Newborn Blood	69,688	99
Newborn Urine	56,537	81
	193,422	-
B. Other Specimens**	3,832	
Total Number of Specimens	197,254	_
Total Number of Tests Performed		
	815,656	

- * Based on an estimated 70,000 live births in Massachusetts.
- ** Obtained for specific purposes of either confirming a disease or for testing immediate relatives of an infant with a known or suspected disease for the ascertainment of additional cases within a family.

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories increased its production and distribution of biologics. The increases in bacterial vaccines primarily reflected distribution to other state health departments

The special capabilities of the Blood Processing Unit attracted the encouragement and collaboration of the federal Center for Disease Control, the Blood Resources Division of the National Heart, Lung, and Blood Institute, and of the Northeast Regional American Red Cross Blood Program.

A new method of screening blood donations for the presence of specific antibodies has been adapted for routine use. The method uses an enzyme as an internal tracer of the desired substance, and is called ELISA (enzyme-linked immunosorbent assay). Limited amounts of Hepatitis B Immune Globulin were produced, and problems in obtaining sufficient amounts of the product were under investigation.

A Control Section was established to allow separation of production and control activities. New and improved facilities for filling and labeling of products were constructed and being put into operation.

DIAGNOSTIC LABORATORIES

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assisted local laboratories throughout the state to achieve a high degree of proficiency in the performance of clinical laboratory tests. During 1977-1978, the proficiency testing program increased over the previous year. In calendar year 1977, the Program awarded certificates of approval to 306 clinical laboratories (five more than in the previous year) for the performance of one or more diagnostic specialties.

During the fiscal year, the Laboratory Improvement Program held seven training workshops and made 110 on-site inspections. The Program gave special attention in microbiology to laboratories in Neighborhood Health Centers, College or University Health Centers, and to laboratories in the public sector.

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism. The total number of tests performed on

197,254 specimens was 815,656 (Table 7)

During the year, six infants with phenylketonuria were identified and placed on the appropriate diet. In addition, 20 babies with other metabolic disorders, such as, galactosemia, maple sugar disease, cystinuria, Hartnup disease and histidinemia, were discovered and placed on the appropriate diet.

Hypothyrodism Screening Laboratory

The Hypothyroidism Screening Laboratory screened 127,016 newborn blood specimens for congenital hypothyroidism (cretinism) during fiscal year 1978. Of these specimens, 63,198 came from Massachusetts, and 63,818 from the other five New England States. Thyroid hormone levels of 8,564 of the infants screened were below the lower limit of normal. Further testing indicated that 8,522 of the 8,564 had low values associated with causes other than typical congenital hypothyroidism. The remaining 42 infants were placed on thyroid hormone replacement with gratifying results.

Parasitology Laboratory

The Parasitology Laboratory provided serologic services for the detection of toxoplasmosis, a parasitic infection capable of causing serious diseases, particularly in the newborn. The laboratory continued to test for other parasitic diseases and began preparations to test for trichinosis. The laboratory also provided telephone consultation to physicians, veterinarians, laboratories, local health departments and health facilities on the diagnosis, control and treatment of various zoonotic and parasitic diseases.

Virology Laboratory

Since July 1976, when reports of Legionnaires' Disease appeared in Philadelphia, the Virology Laboratory has identified 32 cases of the disease in Massachusetts from a total of 493 persons with high fevers and pneumonia (four of the cases had been reported in fiscal year 1977). Two of the cases occurred among personnel in the Virology Laboratory. Results on the 32 cases have been summarized for presentation at an International Symposium to be sponsored by the Center for Disease Control in November 1978. Findings from the laboratory support current speculation that the organism responsible for the disease is opportunistic, possibly originating in the soil. Although the organism has the capacity to be highly virulent or fatal to some individuals with decreased resistance, it is not so readily transmitted from person to person as might have been feared.

Arborvirus surveillance was carried out according to surveillance protocols established in 1974 for mosquitoes and human patients with central nervous system (CNS) infections. Infection rates for both eastern (EEE) and western equine encephalitis (WEE) viruses in mosquitoes increased over 1976. The minimum infection rate for EEE, however, was less than the nine-year mean. Only one equine case of EEE occurred in the state in 1977.

Bacteriology Laboratory

The Throat Culture Program of the Bacteriology Laboratory processed 80,085 specimens from patients under 12 years of age, a decrease of 3.5 percent from the previous year. The decline was attributable to the severe winter weather, which brought school closings and, no doubt, prevented many patients from getting medical attention. The Gonorrhea Control Program and the Mycology Program reported increases in the number of specimens processed, 3.2 percent and 12.2 percent, respectively. The Mycology Program has added a test for the identification of cryptococcosis to its battery of sophisticated test procedures.

Serology Laboratory

Although 585 suspicious animals (a decrease of 119 from 1977) were examined in the Rabies Testing Program, Massachusetts continued to remain free of rabies in ground animals. In 1978, both the number of bats examined and the percentage positive decreased.

Lead Poisoning Prevention

By the end of calendar year 1977, the Department's Childhood Lead Poisoning Prevention Program had increased twofold, a growth made possible by the employment of CETA workers throughout the Commonwealth. All new employees received training with representatives of local health departments. At the beginning of April 1978, the Program began using the erythrocyte protoporphyrin test as the primary screening test for undue lead absorption, the last major program in the country to make the change. All testing was calculated on the basis of new federal guidelines on screening for blood levels of lead and on airborne lead. These guidelines revised downward the safe levels of absorption.

The Program, in addition to training and monitoring the work of deleading crews, began an occupational health surveillance program for deleaders and their families, worked with the State Office of Economic Affairs and the Governor's Office to prepare a statewide plan to increase screening and to speed up removal of lead hazards in homes. In collaboration with the Department of Food and Agriculture and the Environmental Protection Agency, the Program participated in an investigation of the problem of lead in soil and vegetables. The laboratory component of the Program continued to test children one through five years of age at least once for lead poisoning. Results of the testing showed that 10 percent of the children under age six had elevated blood levels of lead.



Food and Drugs

The Division of Food and Drugs is charged with the responsibility of protecting the consuming public from the detrimental effects of chemicals, adulterated foods, unsanitary bedding and upholstery. The Division is also responsible for licensing of vending machines, cold storage warehouses, upholstered furniture, stuffed toys; the licensing of manufacturers of narcotic drugs and establishments that use animals for experimental purposes; the licensing of slaughterhouses and meat and poultry establishments.

The laboratory of the Division was able to meet the demands for laboratory analysis of all products that were brought in by the Division's inspectors. It also carried out its mandated responsibilities to analyze all materials submitted by any regulatory agency for specific analysis used for enforcement of legislation. The laboratory also made analyses for charitable organizations with regulatory authority. The Division cooperated with the Departments of Food and Agriculture, Labor, Public Safety, and Natural Resources, the At-

torney General's Office, and the Consumers' Council in programs of mutual interest.

The work of the Division in analyzing drugs for law enforcement agencies has increased enormously in the past ten years—approximately 2,000 samples in 1968 as compared to 75,000 in 1978.

Preventive Medicine

The Division of Preventive Medicine continued its program to reduce automobile accidents, especially among children under four years of age. Activities in the past year centered on attempts to involve agencies and organizations in both the private and public sector to join the Division's efforts to reach new parents. Four community-based and four hospital-based projects were funded by the Division in the spring of 1978. The projects sought to increase correct utilization by parents of automobile safety devices for children. Additional progress has been made in receiving the cooperation of the Registry of Motor Vehicles and other agencies. The Division sponsored a one-day training session for nurses at the University

of Massachusetts Medical Center in Worcester that was attended by over 70 nurses from throughout the state.

Turning its attention to the manyfaceted aspects of preventive dentistry, the Division completed an exhaustive report on the state of the art, with the strong assistance of the Preventive Dentistry Advisory Committee. The report provided the data and rationale for the further development of the Division's preventive dentistry efforts that go bevond the traditional water-fluoridation activities. Perhaps the highlight of the year was the fluoridation of the water supply of the 32 cities and towns in the Metropolitan District Commission, a measure that culminated seven years of activity, in which the Department's Fluoridation Project had played a role. The Department will continue to play a role in the monitoring and surveillance of the MDC's water supply to ensure the maintenance of a safe and effective level of fluoride.

In the area of nutrition, the activities of the Division of Preventive Medicine have been closely allied to those of the Massachusetts Nutrition Board, which is chaired by the Division's Director. With assistance from Division personnel, the Board produced a major report,



The Status of Nutrition and Nutritional Services in the Commonwealth—A Report of the Massachusetts Nutrition Board. The report provided an inventory of nutrition programs and services in the Commonwealth and listed a series of goals and recommendations for the Board and the Commonwealth.

Regional Health Offices

The regional health offices continued to coordinate the Department's general field activities and to act as intermediaries between the central service programs and the local health agencies. To the extent that resources were available, staff worked to enforce the articles of the Sanitary Code for which the Department is still responsible, to carry out prison inspections, and to certify migrant labor camps.

Only a few activities of each regional office in the past year can be mentioned:

*Central Region — Reflecting the Department's commitment to a broad program of preventive dentistry, the dental hygienist provided regional and statewide consultation in preschool dental care, Headstart nutrition, student surveys and referrals, and professional

training programs. In 13 cities and towns, 484 of 3,571 students surveyed were referred to their dentists, and 2,787 children benefited from 140 educational class sessions. Teaching the use of fluoride tablets and rinses increased, with three school systems implementing their fluoride-rinse programs.

*Northeastern Region—Staff of the regional office served as liaison of the Division of Preventive Medicine with the Massachusetts Nurses Association to develop a proposal for an anti-smoking project for nurses. Further discussion was planned for the next fiscal year. Other community activity led to a threeafternoon program for nurses in community health agencies on the subject "Prevention - An Idea Whose Time Has Come." Because the sessions could not accommodate all those interested, a repeat program was organized for the fall of 1978. For the first time, the Regional Health Office offered a sixpart series of orientation to local boards of health.

*Southeastern Region — Increased demands were made on the Social Service Department to deliver more direct services, to participate in community planning activities, to represent the Department on community and inter-

agency committees, and to provide consultation to health and welfare agencies. Staff have been involved in the Ad Hoc Epilepsy Statewide Implementation Committee, and with persons in the region to organize and incorporate the Epilepsy Society of Southeastern Massachusetts, Inc., which became affiliated with the Epilepsy Foundation of America.

*Western Region — Staff at the Western Regional Office expanded to include a public health nursing advisor, a nutritionist, a coordinator of accident prevention, two physical therapists, and an assistant in alcoholism education. The Lead Paint Inspection Program began using the resources of the Amherst Office for its supervisor and lead inspector. The Regional Office actively participated in the recruitment of CETA-funded lead-paint inspectors for Berkshire, Franklin and Hampshire Counties. The Department's responsibilities for inspecting summer camps were met through a contract with the University of Massachusetts, Division of Public Health's environmental health program. Under the supervision of faculty and the Regional Health Officer, well-trained students were surveying all residential and day camps in the region.



HEALTH REGULATION

Through its program of standard setting, inspection, licensure and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has the responsibility for preventing unnecessary expansion of health care facilities.

Long-Term Care

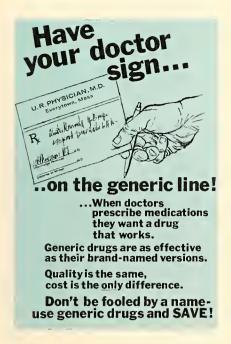
The Division of Long-Term Care was responsible for the bi-annual certification of 336 nursing and rest homes, and for the certification of 535 nursing homes, 142 home health agencies, and eight Department of Mental Health Schools for the mentally retarded for participation in Medicare and Medicaid programs. The Division also performed 32,394 on-site reviews of Medicaid patients in nursing homes and state mental hospitals, and investigated 273 complaints about nursing home care.

In cooperation with the Department's Office of the General Counsel, the Division's Enforcement Office barred 27 facilities from participation in Medicare and Medicaid programs by denial or cancellation of certification. Decertification proceedings in 25 other cases resulted in settlement. Four licensure revocation actions were begun, and seven facilities were closed.

Division of Hospitals and Ambulatory Care

The Division of Hospitals and Ambulatory Care is responsible for the licensing of all hospitals and clinics in Massachusetts. In addition, the Division, under contract with the federal government, is responsible for the certification of all hospitals, clinics, independent laboratories, portable X-ray units, independent physical therapists, and rural clinics for participation in the Medicare and Medicaid programs.

During the past year, the Division monitored the operations of over 500 facilities. The Division also collaborated with the Office of State Health Planning and the Rate Setting Commission to define a classification system for hospital services. The system sought to assist state agencies in collecting statistical information that uses a common terminology.



Dental Health

Staff of the Division of Dental Health worked on the administration of Medicaid dental services, and served with staff from the Department of Public Welfare as a professional service review group. The 95,000 claims reviewed during the year represented an 18 percent increase over the previous year. Review of these claims resulted in an average cost reduction of 15 percent to the Commonwealth.

Health Facilities Development

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for analyzing the need and cost-effective allocation of health care facilities within the state. The purpose of the legislation was to prevent unnecessary building of new facilities or expansion of existing facilities, to avoid wasteful duplication of services and facilities, and to control the diffusion of high-cost medical technologies, whose effectiveness has yet to be proven. The legislation also sought to ensure accessible and quality health care to all persons in the Commonwealth, and to control spiraling health costs.

The Office of Health Facilities and Development reviewed all applications for construction or expansion of a health care facility, or acquisition of equipment that entails a capital expenditure of \$150,000 or more. In fiscal year 1978, the Determination of Need Program reviewed 115 proposed projects and presented 108 to the Public Health Council. The Council approved 93 applications and denied 15. The estimated capital cost savings on hospital, nursing home and clinic facilities came to \$20,840,000.

Hill-Burton Program

Under provisions of the 1946 Hill-Burton Act, all health care facilities that received Hill-Burton construction funds must provide a reasonable volume of free services to persons unable to pay that must be available to all persons residing in the community. In 1974, Massachusetts promulgated regulations, in conformance with federal regulations, to monitor the annual compliance with the uncompensated care and community-service obligation of over 130 health care facilities in the state, and to investigate and resolve complaints of noncompliance. To facilitate monitoring of complaints, the Hill-Burton office revised the annual compliance report and the Massachusetts regulations. Public hearings on the regulations will be held early in the next fiscal year.

Generic Drug Program

Working under the mandate of the Massachusetts Generic Drug Law (1976), staff from the Department's Generic Drug Program worked with the

Massachusetts Medical Society, the Board of Registration and Discipline in Medicine and staff of the Department of Public Welfare to develop regulations to ensure the availability of therapeutically equivalent generic drugs at a reduced cost to the consumer. To guarantee that only therapeutically equivalent drugs are interchanged, staff from the Generic Drug Program and from the Department of Public Welfare worked with the Drug Formulary Commission and the Food and Drug Administration to develop a list of equivalent drugs. The first list was ready by the end of the fiscal year. Successful implementation of the Generic Drug Law, it was estimated, will result in total savings to Massachusetts consumers in the range of \$10 to \$20 million per year. Savings to the Medicaid program alone are estimated at \$2.5 million.

Board of Approval and Certification of Physician Assistant Programs

Since 1975, the Board of Approval and Certification of Physician Assistant Programs has reviewed and approved American Medical Association - accredited Physician Assistant Training Programs, maintained a roster of physician assistants with proof of graduation from approved programs, and coordinated guidelines for the employment of physician assistants. During the past fiscal year, the Board reviewed and approved 26 programs, and updated its roster on a bimonthly basis.



EMERGENCY MEDICAL SERVICES

Ambulance Regulation Service

During the year, staff from the Department's Ambulance Regulation Program inspected 391 ambulance services of the estimated 450 services in the state. By the end of the fiscal year, 234 vehicles had been certified, and 156 services had been licensed. Since enactment of the Massachusetts Ambulance Law in 1973 and of the Massachusetts Ambulance Regulations in 1975, pre-hospital emergency medical care has improved as a result of the threefold increase in the use of Class I ambulances (modular type) and a concomitant decrease in the use of Class V vehicles (dual purpose vehicles such as police station wagons). The Ambulance Regulation Program estimated that 95 percent of all ambulances, as compared to 44 percent in 1973, were now carrying the minimal equipment recommended by the American College of Surgeons.

Office of Emergency Medical Services

The Office of Emergency Medical Services (OEMS) worked with local communities and health care providers to improve the delivery of emergency medical care. Supported by federal Emergency Medical Services grants, OEMS continued its efforts to upgrade resources and to establish local and statewide emergency medical service networks:

*Provided free Emergency Medical Technician (EMT) training to over 9,600 ambulance attendants and others to date, and gave statewide direction and guidance to other training programs for over 13,000 EMTs in the Commonwealth.

*Developed regulations that defined the training requirements and scope of activities for "first responders" (state and municipal police officers, firefighters and lifeguards) as mandated by state law. The Public Health Council approved the regulations in June 1978.

*Assisted cities and towns in the purchase of Class I ambulances through the state's Collective Ambulance Purchase Program. This bulk purchase program, coordinated by OEMS and the Collective Purchasing Bureau of the Commonwealth, saved municipalities approximately \$2,000 to \$4,000 on each ambulance.

HEALTH PLANNING

In the past year, the Office of State Health Planning (OSHP) continued to work for the development of a state-wide health policy and State Health Plan in consultation with other health care groups. OSHP worked with other state health agencies, the Health Systems Agencies, other health organizations and provider groups on several projects. Key accomplishments of OSHP during the fiscal year included:

*Development, in conjunction with the Statewide Health Coordinating Council, of review principles for the Health System Agencies applications, Health System Plans and Annual Implementation Plans.

*Completion of two major reports on the collection of hospital discharge data by the newly established Massachusetts Health Data Consortium.

HEALTH STATISTICS

The Division of Health Statistics within the Office of State Health Planning is responsible for the collection and dissemination of data on vital events, licensed health occupations, and health facilities in the state. The Division also provides data for the health planning agencies in the state. During the past year, the Division recorded the following accomplishments:

*Processed and analyzed data for approximately 200,000 births, deaths, marriages and divorces in the Commonwealth, and published *Public Document No. I*, the Annual Report of Vital Statistics, for calendar year 1977.

*Surveyed over 2,300 health facilities, including hospitals, nursing homes, ambulatory care facilities, home health agencies and residential care facilities, and over 125,000 health professionals in 14licensed occupations. Data collections were partially funded by \$250,000 in contracts from the National Center for Health Statistics for the Cooperative Health Statistics Program, which includes the Vital Events Program.

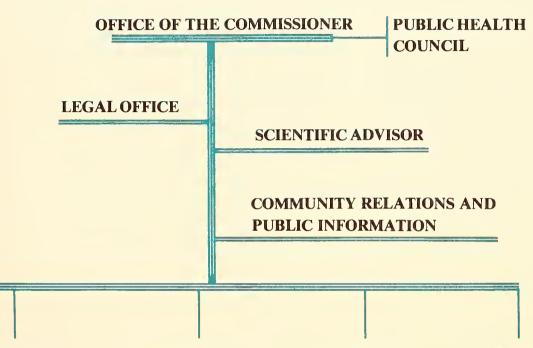
*Prepared for publication the *Health Data Annual, 1977*, a statewide compilation of regional health care data prepared from the annual surveys of nursing homes, hospitals, home care agencies, and residential care facilities, with new sections on health protection and finance.



EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH OCTOBER 1, 1977 — SEPTEMBER 30, 1978

			STATE	FEDERAL	TOTA
OF	FICE OF THE COMMISSION	NER			4
1.	Management Services		1,382,354.68	1,399,954.15	2,782,30
2.	Health Planning		598,954.13	1,090,232.22	1,689,18
3.	Legal Office		120,089.46	80,575.23	200,66
HE	ALTH PROTECTION				Í
1.	Communicable/Venereal Di	seases	2,226,144.74	680,162.89	2,906,30)
2.	Tuberculosis Control		2,900,186.23	118,985.96	3,019,17/1
3.	Radiation Control		91,513.52	63,761.33	155,27%
4.	Food & Drug Regulation		1,661,061.71	59,675.47	1,720,73
5.	Preventive Medicine		203,415.76	355,430.16	558,8419
6.	Regional Health Offices		313,448.28	769,698.41	1,083,144
7.	State Laboratory Institute		3,461,645.78	450,506.91	3,912,15
8.	Family Health Services		5,050.130.50	14,285,706.57	19,335,83
HE	ALTH REGULATION				Arta
1.	Health Facility Regulations		2,436,354.45	696,740.89	3,133,09
2.	Determination of Need		86,942.30	12,247.88	99,19
3.	Dental Health		59,090.46	18,838.40	77,92
4.	Hospital Facilities		76,204.15	17,616.71	93,82
HE	ALTH SERVICES				
1.	Hospitals		46,919,216.00		46,919,21
	Lakeville Hospital	5,481,781.00	, ,		
	Lemuel Shattuck Hospital	12,021,094.00			
	Mass. Hospital School	4,296,243.00			
	Pondville Hospital Rutland Hospital	5,116,453.00 4,645,327.00			l.
	Tewksbury Hospital	11,581,658.00			
	Western Mass. Hospital	3,776,660.00			9
2.	Alcoholism Program		8,584,109.17	3,713,127.26	12,297,23
ТО	TALS		76,170,861.32	23,813,260.44	99,984,12

EXECUTIVE OFFICE OF HUMAN SERVICES DEPARTMENT OF PUBLIC HEALTH



ALTH ANNING

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HEALTH PROTECTION

Communicable/Venereal
Disease Control
Environmental Control
Family Health Services
Food & Drug
Regulation
Local Health
Preventive Medicine
State Laboratory
Institute
Tuberculosis Control

HEALTH REGULATION

Ambulance Regulation Program Board of Approval and Certification of Physician Assistant **Programs** Bureau of Engineering and Development Certificate of Need **Dental Health Drug Formulatory** Commission **Emergency Medical Services** Hill-Burton Hospitals and Ambulatory Care Long-Term Care Facilities

HEALTH SERVICES

Alcoholism Program
Hospitals
Lakeville
Lemuel Shattuck
Mass. Hospital School
Pondville
Rutland Heights
Tewksbury
Western Mass.

MANAGEMENT SERVICES

Budget
Data Processing
Fiscal
Personnel
Carpool & Production

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



MASSACHUSETTS DEPARTMENT
OF PUBLIC HEALTH

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DEPARTMENT
PUBLIC HEALTH

















ANNUAL REPORT 1978 - 1979

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1979

Alfred L. Frechette, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL

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Barbara Corcoran, Secretary	

Pearl K. Russo, *Editor* Chester R. Kennedy, *Art Director*



PERSPECTIVES FOR THE NEXT DECADE

After an absence of seven years, I returned to my former post as Commissioner of Public Health on January 5, 1979, to a more decentralized Department, one that reflected the changing role and function of public health throughout the country. With the passage of the National Health Planning and Resources Development Act of 1974 (P.L. 93-641), health planning had become a major responsibility of the Department. As a result of the designation of the Department as the State Health Planning and Development Agency, the Office of State Health Planning became a functional unit of the Department. The large allocations of funds for health care by both the state and federal governments impelled the Department to consider carefully its priorities for the years ahead, a reexamination that had led to the development of the Division of Preventive Medicine.

To deal with these and other programs mandated by state and federal regulations, six Assistant Commissioners had assumed responsibility for the major areas of Departmental activity: Health Protection, Health Services, Health Regulation, Health Planning, Legal, and Management. Although the organizational structure had changed, 1 found the Department dedicated to its original statement of purpose: ". . . take cognizance of the interests of health and life among the citizens of the Commonwealth" (Act of 1869 Establishing the State Board of Health). This declaration, updated 100 years later, succinctly expresses the basic goals of the Department today: "To maintain, protect and improve the health and well-being of the people." Although the emphasis may shift from decade to decade, the Department, as it prepares to enter the next decade, has reiterated

its determination to carry out its mandated mission within the context of the categories listed below:

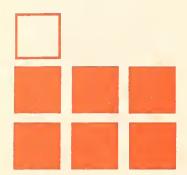
Protection/Prevention: To protect the public health through disease and illness prevention and the encouragement of self-responsibility for good health.

Direct Services: To provide health services to specific populations in the Commonwealth.

Regulation: To ensure the maintenance of proper standards of quality in the delivery of health care.

Planning: To ensure the availability of adequate health-care resources to the people of the Commonwealth at the lowest reasonable cost.

Management: To manage prudently and efficiently the Department's limited resources.



The transfer of the Department's Division of Environmental Health to the Department of Environmental Quality Engineering in July 1975 left a void in the Department's activities to protect the people from the harmful effects of contaminants and pollutants in the environment. The Department, however, still had responsibility for carrying out the provisions of three chapters of the State Sanitary Code that deal with housing, recreational camps, and farm labor camps. As concern among both the public and health professionals mounted over the effects of toxic chemicals in drinking water, polychlorinated biphenyls (PCB's) and Gonyaulax tamarensis ("Red Tide") in shellfish, pollutants in the ambient air, and of radiation from equipment in hospitals and physicians' offices and from nuclear power reactors, the Department took steps to strengthen staff to answer the growing demand for assistance in monitoring these environmental hazards. By the end of the 1979 fiscal year, plans had been formulated to establish an Environmental Health Section, under the direction of an Assistant Commissioner for Environmental

Health, to include the Division of Radiation Control, the Lead Paint Poisoning Prevention Program, the Division of Food and Drugs, and the newly established Division of Community Sanitation. To carry out effectively the many responsibilities of the Section will require the hiring of additional radiation-control inspectors, toxicologists, sanitary engineers, laboratory technicians, and deleaders.

Over the years, the Department had provided a large volume of service to Massachusetts consumers through its four Regional Health Offices, which coordinate the Department's general field activities and act as the intermediaries between the central service programs and the local health agencies. In the recent past, however, budgetary restraints resulted in the gradual scaling down of programs and services. As an essential part of its program for the next decade, the Department has taken steps to strenghten the staff of the Regional Health Offices so that they can provide improved and expanded technical assistance to the cities and towns for sanitation, nursing and school health programs.

To improve the health of the Commonwealth's approximately six million citizens remains a vital aspect of the activities of the Department of Public Health. How this can best be achieved in the decade ahead has been receiving serious consideration from all divisions, units, and programs. In their deliberations, they have stressed the importance of programs to prevent serious illness and to maintain good health. At the same time, regulation and health planning to contain costs will be maintained and streamlined wherever possible.

This 65th Annual Report* is, therefore, a brief accounting of the activities of the Department of Public Health during a period of reexamination and reaffirmation of the Department's mission and goals for the delivery of health care to the people of the Commonwealth.

agrel L. Frecletle

Alfred L. Frechette, M.D., M.P.H. Commissioner

^{*}In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

1978 - 1979 CONTINUING PROGRAMS

HEALTH PROTECTION

The health protection activities of the Department are the classic core activities that are the direct responsibility of state government. These encompass health surveillance and disease control to guard the health of the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and assessment of threats to the population. These activities are carried out primarily in three related sections of the Department: Communicable and Venereal Diseases, Tuberculosis Control, and the State Laboratory Institute. Services to mothers and children through the Division of Family Health Services, the programs of the Division of Preventive Medicine, and of the Division of Food and Drugs also come under the purview of Health Protection.

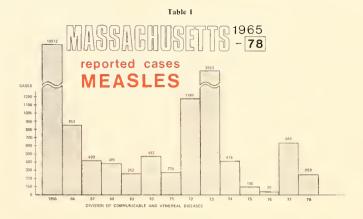
Communicable Disease Control

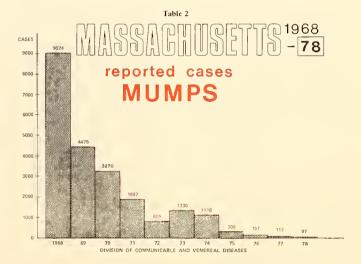
The statewide immunization programs of the Department continued to record progress in controlling measles, mumps, and rubella:

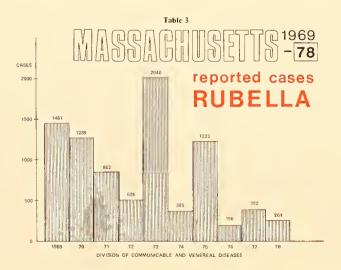
- Measles down from 19,512 cases in 1965 to 253 cases in 1978, a decrease of over 98 percent.
- Mumps down from 9,024 cases in 1968 to 97 cases in 1978, a decrease of 99 percent.
- Rubella down from 1,461 cases in 1969 to 261 cases in 1978, a decrease of over 82 percent.

These programs not only prevented illness and death but also saved the Commonwealth approximately \$12,734,000 in actual costs for medical care and institutionalization of patients (Tables 1, 2, 3).

Massachusetts, which has been on a maintenance immunization program since polio became available, has not had a single reported case of polio since 1968. The annual immunization survey of children entering kindergarten (70,115) showed 97.50 percent in 1978 had already received polio vaccine as compared to 94.25 percent in 1977. The







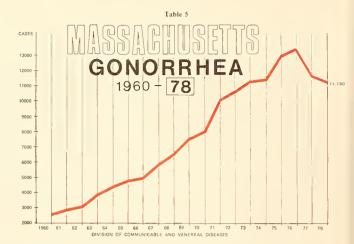


Table 4.

Percentage of Immunized Children Entering Kindergarten
1973 - 1979

Year

							Percent Increas	
	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	Over 1973-74	
Diphtheria								
≺ Telanus - DTP	88.6	93.51	95.04	96.21	95.82	96.99	9,47	
Whooping Cough								
Polio	86.2	92.04	94,10	95.84	94.25	97.50	13.11	
Measles	90.3	93.53	94.60	96.21	98.32	98.60	9.19	
Mumps	59.3	69.19	78.00	84.56	89.83	92.79	56,48	
Ruhella	62.0	70.41	78.51	84.55	90.04	93.32	50,52	

percentages of these children immunized against polio and the six other immunizable diseases all showed impressive increases over 1974 (Table 4).

During the year 1978 - 1979, the Division of Communicable and Venereal Diseases also surveyed 54,150 children in day-care centers and found substantial increases over the previous years:

	1975-76	1977-78	1978-79	Percent Increase Over 1975-76
DTP	86.73	90.99	94.23	8.65
Polio	85.71	89.83	94.91	10.73
Measles	89.31	93.22	95.83	7.30
Mumps	77.27	85.93	92.78	20.07
Rubella	76.00	85.36	92.46	21.66
No surve	v had bee	n conduc	ted in 197	6 - 1977.

Through a grant of \$320,000 from the United States Public Health Service (USPHS), the Division organized an influenza immunization program for high-risk groups. During the flu season, 143,150 patients were immunized, a number that represented one of the largest percentages of high-risk groups immunized by any state, according to the United States Public Health Service.

Venereal Disease Control

In accordance with national standards, the program of the Division of Communicable and Venereal Diseases is concerned with the 14 sexually transmissible diseases. Of these, seven — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, nongonococcal urethritis, and scabies—

were epidemic not only in Massachusetts but throughout the country. Massachusetts has about one and one-half cases of male gonorrhea to one case of nongonococcal urethritis, the number one venereal disease in England. Because of the increase in the cases of nongonococcal urethritis and of genital herpes (also important for its oncogenic potential), the Division has planned to include these two diseases in the list of reportable diseases as soon as staff is available.

The 11,190 cases of gonorrhea reported in the calendar year 1978 represented a decrease of 3.5 percent from 1977 but constituted a 72.68 percent increase over the 6,480 cases reported a decade earlier (Table 5). The estimated number of gonorrheal infections, however, was 44,760. This figure is based on a Center for Disease Control survey that indicated that only 25 percent of treated cases of gonorrhea are reported.

For the calendar year 1978, primary and secondary syphilis showed a decline of 37.5 percent from 1977 - 550 cases in 1977 down to 344 in 1978 - accompanied by an overall decrease of 2.7 percent in all stages of reported early syphilis, congenital and other tyeps of syphilis. An important factor in the Division's control effort was the syphilis interview-contact-tracing procedure used by the Division's staff in the 21 state cooperating venereal disease clinics with 630 of the 681 (96 percent) early syphilis cases reported to the Department of Public Health.

The Department's program for the screening of asymptomatic women for gonorrhea continued with the renewal of a federal grant for \$414,900. During calendar year 1978, the program examined 156,102 women by culture at about 100 participating facilities. Of the women examined, 4,717 were found positive, a rate positive of 3.0 percent.

The diagnosis, treatment, and epidemiology of gonococcal pelvic inflammatory disease (P1D) have become important aspects of gonorrhea control. Because the majority of women with P1D seek medical attention in hospital emergency rooms, the Division established a protocol with standards for the proper diagnosis and treatment of gonococcal P1D for over 30 hospitals located in areas of highest incidence. Measures for ensuring the rapid epidemiologic follow-up of contacts, most of whom were asymptomatic men, were also established. In the six-month period from January 1, 1979 to June 30, 1979, 165 cases of gonococcal P1D were reported.

In its attack upon venereal disease, the Department continued its three-pronged program of education, treatment, and control. The 21 cooperating state venereal disease clinics in the outpatient departments of general hospitals had 46,257 patient visits for examination and treatment during the fiscal year. The cost per patient visit, which includes epidemiologic investigation, amounted to approximately \$16.40 per visit.

Tuberculosis Control Program

The Division of Tuberculosis Control is the single agency responsible for the surveillance of tuberculosis in the Commonwealth, as well as for the development of programs to control and eradicate the disease. To this end, the Division promotes many activities, either directly, by contract, or in collaboration with local boards of health, hospitals, and physicians.

Despite the availability of therapeutic drugs, tuberculosis has not been eradicated anywhere in the United States. In the calendar year 1978, the number of newly diagnosed cases reported in Massachusetts declined by 10.4 percent — 580 cases as compared to 647 in 1977. The 1978 case rate also showed a modest decline from 11.1 per 100,000 to 10.0, a rate below that of the nation as a whole (13.1 per 100,000), and continued to compare favorably with rates in other industrial states.

The failure of the new tuberculosis case rate to decline more rapidly was attributable to an influx of high-risk population into the state, to high unemployment rates, and to a continuing decline in the standards of inner-city housing. Urban areas, such as Boston, Cambridge, Fall River, New Bedford, Springfield, Worcester and the Lowell-Lawrence area, all had unacceptably high incidences of the disease.

The Division of Tuberculosis Control continued to emphasize reduced hospitalization and early ambulation of tuberculous patients, at substantial savings to the Commonwealth and with a safe return of patients to home and productivitiy. The Division provided, by contract, 10,398 patient days of care in fiscal year 1979 in 10 general hospitals. The average length of stay in these 10 hospitals dropped from 15.0 days in 1978 to 12.4 days in 1979. The Division also provided care for approximately 32,000 outpatient visits under contract with 40 clinics in general hospitals throughout the state. Each tuberculosis clinic made available preventive and treatment services, without cost, to patients from nearby designated communities. Consequently, no person in the Commonwealth is without ready access to tuberculosis services.

The Division maintained close cooperation with federal and local officials in the referral and treatment of aliens, including some "boat people."

Family Health Services

Improved health services to mothers and children in the Commonwealth remained an important part of the Department's total effort to upgrade community health. Through two components of the Division of Family Health Services — Maternal and Child Health, and Services to Handicapped Children — the Department carried out programs to reduce infant and maternal morbidity and mortality, to promote maternal and child health, and to evaluate and treat handicapped children.

Maternal and Child Health

The grantee of funds under the Maternal and Infant Care (MIC) Projects and of the Children and Youth (C&Y) Projects, the Department continued to serve mothers and children from Boston's low-income neighborhoods through the nine original Boston MIC and C&Y programs. During the fiscal year, the MIC program provided comprehensive maternity care to mothers who accounted for approximately 18 percent of all Boston resident births. In the same period, the C&Y programs saw about 45,000 children.

The MIC Program at the Wesson Women's Unit of the Baystate Medical Center in Springfield, in operation for a little over a year, added full-time social workers, nutritionists, and family planning counselors to the staff. Augmented staff were able to offer an interdisciplinary approach to health care to the women who use the prenatal clinics at Wesson and at two neighborhood health centers.

The Division provided technical assistance to all the centers in developing systems for monitoring immunizations and follow-up. All the programs made progress in raising immunization levels, and are now maintaining levels of over 90 percent full immunization of two-and six-year-old children.

Other Title V Special Projects included the Intensive Care Program at the Baystate Medical Center, which employs the skills of a clinical nurse specialist. Therapeutic support in the intensive-care nursery and a referral system developed by the program were outstanding achievements. A developmental follow-up clinic for infants from the intensive-care nursery will follow them up to the age of four. Other programs provided comprehensive health care in Chelsea, Lowell, Lynn, Ply-

mouth, Springfield, Waltham, and in towns in southern Berkshire County.

Closely related to the MIC and C&Y projects, the Women, Infants and Children's Supplemental Food Program (WIC) expanded from 23 to 31 agencies, one of them being the Baystate Medical Center. Over 27,000 mothers, infants, and children, an increase of 4,000 over the previous year, participated in the WIC program, which provides participants with special food packages, nutritional counseling, and health assessments.

The Infant Services Unit worked with staff from the Department of Mental Health to strengthen community-based, multidisciplinary teams that provide services both at home and in centers for developmentally delayed or handicapped infants and children from birth to three years of age. The Division of Family Health Services augmented existing teams, which had expanded from six to 16, with needed nursing personnel and specialized therapists.

The Screening Program for Infant Hearing Impairment provided diagnostic evaluation of infants and children up to three years of age who were identified as being at high risk for hearing loss. Because serious disability can result if hearing impairment remains undetected until language and speech development are retarded, the Division has emphasized the need for early referral. Between January and June 1979, approximately 300 children were evaluated at 18 approved testing centers. The Vision and Hearing Program trained 806 school personnel in vision and hearing screening.

Staff from the Division visited and evaluated 13 adolescent programs and provided technical assistance when required. Liaison between the adolescent programs and other services in the same areas, such as WIC, family planning, and early childhood development clinics, was strengthened. The increase in the number of pregnant teenagers in the state has been a matter of concern to the Division, which improved social services and health education efforts for adolescents in Lowell and Haverhill. In addition, the Division's Program Specialist served as state team leader at a regional conference sponsored by the Department of Health, Education, and Welfare, Region I. The team set goals and formulated a plan for Massachusetts to improve services for the prevention of pregnancy and to help teenage parents.



Other Family Health Services projects that continued during the year included rheumatic fever prevention, epilepsy control, aid to children with cystic fibrosis or hemophilia, and premature birth programs for wed and unwed mothers.

Services to Handicapped Children

One of the primary goals of the Services to Handicapped Children is the identification of handicapped children at an early age so that they may have an opportunity to develop to their greatest potential. To that end, the Division of Family Health Services provides clinical services for many handicapping conditions: orthopedic, neurologic, cardiac, plastic, orofacial anomalies, myelodysplasia, hemophilia, cystic fibrosis, and inborn errors of metabolism. Over 5,500 children were seen by specialists in the clinics during the fiscal year.

Because services to the multiply handicapped child are frequently supplied by more than one state agency, the Division of Family Health Services continues to function as a referral source. During the year, 108 requests for residential care came from the Department of Mental Health, the Department of Public Welfare, Day Care, the Division of Special Education, and hospitals. Other requests were for home care services, respite care, and two for both home care and respite services. The Division purchases services from appropriate agencies to reinforce the family's ability to nurture multiply handicapped children.

Radiation Control Program

Radiological health specialists in the Radiation Control Program carried out, on a regular basis, surveys of diagnostic and therapeutic X-ray units in hospitals and private offices, of nuclear medicine departments in universities, and of secondary schools that hold registrations for radioactive material. Program personnel also surveyed color television receivers, microwave ovens, and supermarket laser-checkout systems. The Radiation Control Program maintained responsibility for approving plans for radiation protection for all facilities in-

volved in construction, alterations or reconstruction. Surveys for these facilities are conducted after completion of the work.

The Program has increased surveillance and inspection of fixed nuclear power stations. Personnel visited each station every two weeks to ensure the proper operation of monitoring equipment. Thermo-luminescent dosimeters to check the data received from the power companies were placed around each reactor and changed monthly.

Personnel have also participated in the development of emergency plans for fixed nuclear power stations. Protective action guides that were prepared will be used if radiation is released from any of the stations. The Nuclear Incident Advisory Team (NIAT) bulletin has been updated to reflect the changes in personnel, as well as in the procedures to be followed in an accident involving radioactive material or machines that emit ionizing radiation either at a fixed installation or during transport.

Staff from the Radiation Control Program continued to participate in governmental deliberations concerning the PAVE PAWS radar system at the Otis Air Force Base on Cape Cod.

STATE LABORATORY INSTITUTE

The State Laboratory Institute, through its two sections — the Division of Biologic Laboratories and the Division of Diagnostic Laboratories — continued to provide many high-quality services to the Commonwealth with a total annual budget of less than \$4 million:

- Research and development of new technology
- Performance of a variety of tests on more than three-quarters of a million specimens for clinical diagnostic purposes.
- Production and distribution of serums and vaccines for use throughout the year.
- Diagnosis of rare or exotic diseases
- Establishment of new diagnostic tests.

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories has continued to meet the large demand for diphtheria-tetanus-pertussis vaccine (DTP) for children that resulted from the excellent compliance of Massachusetts with national goals for full immunization. The manufacture of high-quality DTP, especially the pertussis component, has been critically important because of concerns about adverse reactions that have surfaced elsewhere, and because short supply had interrupted programs in other states.

Demand in the Commonwealth for blood plasma derivatives produced by the fractionation of plasma continued to be strong. Human serum albumin, which is used as a hepatitis-free plasma substitute, was processed and inventoried into bulk powder at an increased rate over previous years.

Production of other specific immunoglobulins increased during the year: Tetanus immune globulin (TIG) was increased by 6 percent. Distribution of Rh immune globulin (RhIG), which is made available to all maternity patients, increased by 10 percent. RhIG is administered within 72 hours post partum to desensitize the mother to prevent erythroblastosis fetalis, a severe blood disease of newborns that may lead either to their death or to retardation.



DIAGNOSTIC LABORATORIES

Bacteriology Laboratory

The traditional excellence of the Bacteriology Laboratory was exemplified by its providing the first direct isolation of tularemia from wildlife associated with the spectacular outbreak on Martha's Vineyard in the late summer of 1978. Five of seven members of a household had contracted acute respiratory disease, later diagnosed as pneumonic tularemia. A dead rabbit discovered near the house was found, after autopsy and culture, to carry *Francisella tularensis* in its system, thus indicating the presence of the infection in the area.

The Throat Culture Program processed 97,682 specimens from patients under 12 years of age, an increase of 2.5 percent over the previous year. The Gonorrhea Control Program and the Mycology Program reported increases in the number of specimens processed, 2.4 percent and more than 100 percent, respectively. Among the interesting findings of the Mycology Program was the isolation of *Sporotrichum schenckii*, a genus of fungi, from a patient with primary pulmonary involvement who had worked for many years in the wholesale flower market.

Parasitology Laboratory

The Parasitology Laboratory continued to provide serologic studies for the detection of toxoplasmosis, a parasitic infection capable of causing serious disease, especially in the newborn. Toxoplasma serology constituted 78 percent of the laboratory's work during the year. The laboratory also provided, as a major service, clinical consultation to physicians on the diagnosis, treatment, and prevention of parasitic and tropical diseases.

Serology Laboratory

The Dr. William A. Hinton Serology Laboratory once again participated successfully in the federal Syphilis Serology Proficiency Testing Program conducted by the Venereal Disease Program of the Center for Disease Control on the standard tests for syphilis. In addition, the Serology Laboratory, in collaboration with the Laboratory Improvement Program, conducted the annual statewide syphilis serology proficiency testing of 280 local clinical laboratories to qualify them for state approval to perform premarital and prenatal syphilis serology testing as required by law.

Although 617 suspicious animals (an increase of 32 over 1978) were examined in the Rabies Program, Massachusetts

Diagnostic Laboratories Metabolic Disorders Laboratory

July 1, 1978 - June 30, 1979

			Percent of
A.	Routine Specimens	Number	Live Births*
	Umbilical Cord Blood	68,849	97
	Newborn Blood (Massachusetts)	70,541	99
	Newborn Blood (Maine)	16,097	
	Newborn Blood (Rhode Island)	10,936	
	Newborn Urine	56,562	80
		222,985	
B.	Other Specimens**	3,738	
Tota	l Number of Specimens	226,723	
Tota	l Number of Tests Performed	742,474	

- * Based on an estimated 70,000 live births in Massachusetts.
- ** Obtained for specific purposes of either confirming a disease or for testing immediate relatives of an infant with a known or suspected disease for the ascertainment of additional cases within a family.

continued to remain free of rabies in ground animals. The primary vector of rabies for pet animals and humans in the state was the insectivorous bat. In 1979, the number of bats examined had increased to 158, of which seven were positive. The percentage positive frequency of rabies remained approximately the same as in the previous year — 4.4 percent.

Probably the most important contribution of the Rabies Program to the health of the Commonwealth is the free, direct, diagnostic emergency service to determine whether postexposure rabies immunization is essential or not. This emergency service is available seven days a week, including holidays.

Virology Laboratory

The Virology Laboratory continued to provide primary and referred diagnosis of a wide variety of viral, mycoplasmal, chlamydial, and rickettsial diseases. A total of 11,973 specimens were received and processed, and 41,385 tests were performed. Although the number of specimens has remained at about the same level as the previous fiscal year, the number of examinations has increased and the number of test procedures has expanded.

The Encephalitis Program had an exceptionally busy season, collecting 3,000 pools of more than 64,000 mosquitoes for analysis. Despite evidence of spread of the disease to horses, human cases were not observed. Spraying was targetted to specific appropriate areas.

Hypothyroidism Screening Laboratory

The Hypothyroid Screening Laboratory screened 144,773 blood specimens for congenital hypothyroidism (cretinism) during fiscal year 1979. Of these specimens, 70,363 came from Massachusetts, and 74,410 from four other New England states. Thyroid hormone levels of the infants screened were below the lower level of normal. Further testing indicated, however, that only 24 were hypothyroid. Only four of these infants had been diagnosed clinically; without the screening program, the diagnosis would have been missed in the other 20. The 24 hypothyroid infants were started on thyroid replacement therapy before three months of age, after which time damage to the central nervous system becomes irreversible. These infants have been entered into a follow-up study to evaluate the results of early treatment on physical and mental development.

Metabolic Disorders Laboratory

The Metabolic Disorders Laboratory continued to test newborns in the state for over 30 inborn errors of metabolism. The laboratory also screened for phenylketonuria and three other metabolic disorders for the States of Maine and Rhode Island (Table 6).

During the year, 13 infants with phenylketonuria were identified and placed on the appropriate diet. In addition, 23 babies with other metabolic dis-

orders, such as, cystinuria, galactosemia, histidinemia, Hartnup disorder, and iminoglycinuria, were discovered and placed on the appropriate diet.

Laboratory Improvement Program

Through its Laboratory Improvement Program, the Division of Diagnostic Laboratories assisted local laboratories throughout the state to achieve a high degree of proficiency in the performance of clinical laboratory tests. In calendar year 1978, the program had awarded certificates of approval to 300 clinical laboratories. By the end of the 1979 fiscal year, 305 laboratories were enrolled in the program.

During the fiscal year, the Laboratory Improvement Program held 16 training workshops and made 236 on-site inspections and consultations. The traditional State Laboratory role of education and training has, however, been overtaken by growing pressure from federal agencies and consumer groups for more regulatory approaches. The decision was made, therefore, to phase out the proficiency testing activities of the program. Regulatory responsibilities have been met by establishment of a separate unit of inspectors within the Health Regulation Section of the Department. The Laboratory Improvement Program and other units of the State Laboratory have expanded their training activities to help laboratories obtain the necessary experience to qualify under the new regulations.



Lead Poisoning Prevention

The Department's Childhood Lead Poisoning Prevention Program carried out approximately 88,000 screening tests for lead toxicity during fiscal year 1979, a fourfold increase since the Lead (Pb) Toxicity Laboratory was established in 1973. Three percent, or approximately 2,500 specimens, revealed evidence of untoward effects of lead. The program used the erythrocyte protoporphyrin (EP) test as the primary screening test for undue lead absorption. Atomic absorption spectroscopy analyzed follow-up blood samples of children with suspicious EP elevations to confirm the presence of lead poison-

The laboratory identification of presumptive levels of lead toxicity in children outdistanced the field staff's capacity to assist in confirmation, referral for treatment, and hazard abatement. The data were used, however, as the basis for 662 housing inspections carried out directly by staff from the Department of Public Health, and an additional number performed by CETA staff.

Preventive Medicine

The Division of Preventive Medicine strengthened its program to reduce automobile accidents, especially among children under four years of age. During the fiscal year, the Division funded 10 hospital or community-based projects that sought to increase correct utilization by parents of automobile safety devices. These projects have provided staff education for health professionals, nurses, and pediatricians, who have worked with parents in either prenatal or postnatal classes.

On August 1, 1978, the Division launched a major child auto-safety campaign in eastern Massachusetts in cooperation with a major television station and the ALA Auto and Travel Club. Additional support came from other groups concerned with automobile safety. The campaign, which reached hundreds of thousands of persons through TV programs, spot announcements on radio, news stories, pamphlets, and posters, received an award from the United States Department of Transportation for being "perhaps the best public information campaign on children's automobile safety ever conducted in the United States." A similar campaign was conducted in Springfield to reach the population in the western part of the state.

The Division renewed its contract with the Forsyth Dental Research Center to continue its study of the oral health of school-age children in Massachusetts, the first such study since 1959. Data from the study will permit comparison, in the future, of the rate of caries among children living in communities with fluoridated or non-fluoridated water supplies.

The Health Promotion Resource Center of Western Massachusetts, known as Lifeways, continued to be funded by the Divisions of Preventive Medicine, Family Health Services, Tuberculosis Control, and Alcoholism. Conceived as a prototype for the delivery of health promotion resources in western Massachusetts, the project will receive funds only from Preventive Medicine in the next fiscal year.

Seven smoking prevention and cessation projects, selected on the basis of concrete results obtained at the close of the previous fiscal year, as well as on their potential for further development of long-term successful programs, were re-funded for fiscal year 1979.

Regional Health Offices

Despite a shortage of funds and personnel, a slightly augmented staff of the four Regional Health Offices were able to carry out their multifaceted activities and responsibilities. These are the same for all the Regional Health Offices and can be summarized as follows:

- Technical assistance for sanitary programs and consultations on nursing, social work, and nutritional programs.
- Regulatory application and regulations of the State Sanitary Code and Food and Drug laws; inspection of prisons and certification of migrant labor camps.
- Preventive programs collection and interpretation of epidemiological material; patient care and follow-up designed to protect the public by treating the disease.
- Direct patient services the provision of either direct services or contracts with other medical agencies. These activities include the Handicapped Children's Programs, hospital outpatient services, rehabilitation programs, family planning, and dental programs.
- Planning development of new health systems, especially in association with the Regional Health Systems Agencies.

Although the emphasis may be different in one or another regional office, each office does participate in these activities, only a few of which can be mentioned:

 Central Region — The emphasis of the Dental Health Program shifted from dental surveys and classroom programs to preventive dentistry. A total of 2,110 children in kindergarten through grade six in six towns in Worcester County participated in a fluoride mouth-rinse or tablet program funded by the Division of Preventive Medicine.

- Northeastern Region The culmination of many years of activity on the part of the Northeastern Regional Health Office and other agencies, the Visiting Nurse Association of North Shore was incorporated by the end of the fiscal year. A merger of four certified home health agencies, the new VNA will provide more comprehensive public health programs to five North Shore communities.
- Southeastern Region The majority of the regional staff were assigned to the programs of the Services for Handicapped Children. Fifteen specialty clinics made services available to approximately 2,005 patients. Because of an increased demand for orthopedic services in the Southeastern Region, three orthopedic clinics were scheduled monthly at the Lakeville Hospital, two in Fall River, and two in Brockton.
- Western Region The public health nutritionist provided workshop and technical assistance to staff of Family Health Services, as well as to staff of programs, such as hypertension, funded by the Division of Preventive Medicine. Both the nutritionist and public health nursing advisor worked closely with the Western Massachusetts Health Planning Council to help maintain the high quality of health planning in the region.

Food and Drugs

Consumers, more sophisticated and more vocal than at any time in the past, expect public agencies to maintain a healthy environment. Aware of the hazards to health that surround them whether they be airborne pollutants, carelessly packaged foods, flammable clothing, or polychlorinated biphenyls (PCB's) in shellfish and water supplies consumers demand of the Department of Public Health more and stricter controls.

The Division of Food and Drugs is charged with the responsibility of protecting the consuming public from the detrimental effects of chemicals, adulterated foods, unsanitary bedding and upholstery. The Division is also responsible for licensing of vending machines, cold storage warehouses, upholstered furniture, stuffed toys; the licensing of manufacturers of narcotic drugs and establishments that use animals for experimental purposes; the licensing of slaughterhouses and meat and poultry establishments.

The enormity of the task of the Division in only one area — inspection of food — is evident from the following data: The inspections of food cover the whole distribution chain from the source of the food to the ultimate purchase by the individual consumer. Included in this cycle in fiscal year 1979 were more than 1,800 food manufacturers and processors, approximately 1,350 food trucks, about 1,225 wholesale distribution points, and almost 40,000 retail food outlets.

The laboratory of the Division was able to meet the demands for analysis of all products brought in by the Division's inspectors. It also carried out its mandated responsibilities to analyze all materials submitted by any regulatory agency for specific analysis used for enforcement of legislation. The laboratory also made analyses for charitable organizations with regulatory authority. The Division cooperated with the Departments of Food and Agriculture, Labor, Public Safety, and Natural Resources, the Attorney General's Office, and the Consumers' Council in programs of mutual interest.

Fish inspectors permanently stationed at the fish piers of Boston, Gloucester, and New Bedford ensured the wholesomeness of all fish coming into the main piers of Massachusetts. During the fiscal year, the Division monitored 471 market samples of shellfish to guarantee that no shellfish contaminated by Gonyaulaux tamarensis, the paralytic toxin, reached the public.

The work of the Division in analyzing drugs for law enforcement agencies has increased by more than 100 percent since 1975 — from less than 40,000 to more than 90,000.

HEALTH SERVICES

Through the operation of its seven hospitals, the Department has been able to supplement existing resources on a statewide basis and to assume special responsibilities to ensure comprehensive health care to the community. The hospitals have been working more closely with regional planning groups to develop programs for needed services that are not provided by voluntary or private hospitals, or by other health agencies. Detoxification and rehabilitation services are also available through the Department's community-based alcoholism programs.

Hospitals

The Department's seven hospitals continued to provide a broad range of clinical services to meet the needs of patients with long-term but remediable disabilities. In cooperation with other agencies within the Executive Office of Human Services, especially the Departments of Public Welfare and Correction, the Department extended its basic preventive and protective services to segments of society that do not usually receive help from private medical resources. The hospitals' services and

programs are briefly summarized. Services Hospital

Lakeville

Comprehensive rehabilitation and education for handicapped children, rehabilitation for physically handicapped adults, chronic renal dialysis.

Lemuel

Medical and surgical care of chronic illness, emphasizing pulmonary disease care, renal dialysis, chronic alcoholism, and vascular programs.

Massachusetts Hospital School

Shattuck

Heights

Education and vocational training in conjunction with medical and surgical care of physically handicapped but intellectually able children.

Multimodality treatment of **Pondville** cancer in adults and

children. Rutland

Long-term hospitalization and rehabilitation of adults with chronic diseases and alcoholism.

PUBLIC HEALTH HOSPITALS ANNUAL CENSUS SUMMARY -- JULY 1, 1978 - JUNE 30, 1979

Admissions	Daily		Longith	45 47 4	
Admissions			l ength of	Patient	Outpatient
TOTAL STORY	Census	Discharges	Stay	Days	Visits
331	104.7	322	107.5	38,205	6,671
1,539	108.8	1,499	25.7	39,719	15,761
43	71.4	40	377.0	26,056	58
182	66.8**	160	236.9	24,378	1,561
1,049	48.2	885	16.9	17,589	16,479
385	111.3	357	105.0	40,637	1,706
106	79.3	125	105.0	28,937	_
199	789.9	48	1,112.0	288,297	_
572	65.5	467	35.0	23,890	15,331
4406	_	3903	_	527,708	57,567
	1,539 43 182 1,049 385 106 199 572	1,539 108.8 43 71.4 182 66.8** 1,049 48.2 385 111.3 106 79.3 199 789.9 572 65.5	1,539 108.8 1,499 43 71.4 40 182 66.8** 160 1,049 48.2 885 385 111.3 357 106 79.3 125 199 780.9 48 572 65.5 467	1,539 108.8 1,499 25.7 43 71.4 40 377.0 182 66.8** 160 236.9 1,049 48.2 885 16.9 385 111.3 357 105.0 106 79.3 125 105.0 199 789.9 48 1,112.0 572 65.5 467 35.0	1,539 108.8 1,499 25.7 39,719 43 71.4 40 377.0 26,056 182 66.8** 160 236.9 24,378 1,049 48.2 885 16.9 17,589 385 111.3 357 105.0 40,637 106 79.3 125 105.0 28,937 199 789.9 48 1,112.0 288,297 572 65.5 467 35.0 23,890

- * The dialysis units of the Lakeville and Shattuck Hospitals provided 5,574 and 7,473 treatments (including home dialysis) respectively.
- ** Low percentage reflects policy of the Massachusetts Hospital School to allow patients to go home for holidays and vacations.

tory School, a day-care center for primarily able-bodied preschoolers, which provides practical child-care experience for students of the Hospital School. The Donovan House allowed students preparing to live independently in the community to participate in an

 Pondville Hospital continued its basic research in the causes and prevention of cancer, and in the role played by immunological factors in the development and treatment of cancer. Patients came to Pondville from over 100 cities and towns in eastern Massachusetts, especially from the southeastern part of the state and from Cape Cod.

on-campus, transitional housing unit.

- •Rutland Heights Hospital has improved its standard of performance as evidenced by its multiple certification by the Joint Commission on Accreditation of Hospitals as a hospital, a long-term care facility, and as an alcoholic unit. In addition, the hospital received certification from the Commission on Accreditation of Rehabilitative Facilities in social adjustment and physical restoration. The hospital reduced the average length of stay of its patients by approximately 15 percent by making improvements in its therapeutic services. Rutland Heights continued to provide backup services for the 80-bed psychiatric unit operated by the Department of Mental Health.
- Tewksbury Hospital awarded certificates in Clinical Pastoral Education to 44 clergymen and nuns. The course on how to administer to the sick and dying has been in operation at the hospital for 18 years. Maintaining close ties with the community, the hospital cooperated with the Neighborhood Youth Corps in their program for the employment of

underprivileged children; permitted encampment of the Greater Lowell Council, Boy Scouts of America, on the hospital grounds for several weekends during the summer; made quarters available for the Head Start Program and for the Day Care Center for children of working mothers from low-income families. Following a utilization review survey carried out by staff of the Department, the hospital received notice that it was in compliance with the "Conditions of Participation for Hospitals under the Health Insurance for the Aged and Disabled Programs.'

 Western Massachusetts has since 1975 participated in sponsoring, with other area organizations that serve handicapped children, Kamp for Kids. The program gives 180 handicapped children in western Massachusetts an opportunity to enjoy the experience of a day camp. Another summer day-camp program, conducted on the grounds of the hospital by the Massachusetts Migrant Education Program, Department of Education, provided approximately 200 children, ages four to seven, with recreational and social activities. The hospital continued to perform preemployment physical examinations for various Civil Service applicants, and preinduction examinations for members of the Army National Guard.

The seven hospitals admitted 4,406 patients during fiscal year 1979, a decrease of 118 from 1978. The average length of stay varied from 16.9 days at Pondville to 1,112 days at Tewksbury. The number of outpatient visits — 57,567 — represented a substantial increase of 19,995 over 1978 and reflected the emphasis on more and improved ambulatory care programs (Table 7).

Tewksbury

Medical and surgical care of chronically ill and severely handicapped adults; alcoholism program.

Western Massachusetts

Long-term care of chronic illness in adults, rehabilitation and alcoholism programs. Medical and surgical care of multiply handicapped children.

- Lakeville Hospital received a full twoyear accreditation following the survey of the Joint Commission on Accreditation of Hospitals. The hospital's patient-care services were strengthened by the addition of several highly qualified physicians to the staff. Existing clinical affiliations with Tufts University School of Medicine were also strengthened as a result of a joint planning meeting of key Tufts and Lakeville staff members to explore mutually beneficial programs. Although the patient census remained similar to the previous year, revised admission procedures and intensified planning for discharge patterns helped speed the turnover of patients.
- Lemuel Shattuck Hospital, celebrating its 25th anniversary, made a strong effort to strengthen the balance between community patients and state-sponsored patients. An active outreach committee made substantial progress in establishing new relations with community groups and organizations to acquaint them with the resources of the hospital. Consequently, outpatient visits to all clinics increased sharply from 8,431 in fiscal year 1978 to 24,751 visits in fiscal year 1979. New and expanded services, as well as a refined statistical reporting system, were also factors in raising the number of outpatient visits.
- Massachusetts Hospital School, the Commonwealth's unique institution that offers coordinated medical, educational, and restorative services to physically handicapped children, continued to stress shorter lengths of stay and an acceleration of communityoriented programs. The trend of placing and keeping handicapped children in the local community has resulted in a decrease in the core population at the Hospital School. Despite the drop in patient days, use of rehabilitative services, X-ray and laboratory facilities increased, an indication of more intense levels of service. Continuing programs included the Cole Harrington Labora-



As part of the Department's total public health effort, the seven hospitals continued to expand training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts graduated about 150 licensed practical nurses from their accredited schools of practical nursing. Many of the nurses continued to work at the hospitals.

Alcoholism Program

The Division of Alcoholism concentrated its efforts on building a network of prevention resources with a staff expert and large enough to provide, both regionally and statewide, alcohol-education services of high quality. More programs and planning resources have been developed to meet the needs of youth, women, and minorities. In the area of secondary prevention, the driver alcohol-education program offered a structured, group educational series for persons arrested for driving under the influence of alcohol. The concept of employee assistance programs as a means of early identification of potential alcoholics has received support in many areas. It was estimated that over 10 percent of the state's workforce in the private sector and a considerably higher proportion of workers in the public sector were covered by such programs.

The Division continued to support the statewide system of 21 detoxification facilities, 45 halfway houses, 31 outpatient programs, and five special projects. This network served over 25,000 persons during the year. Funding for the state-supported programs increased to approximately \$11,000,000.

HEALTH PLANNING

Fiscal year 1979 marked the third year that the Department of Public Health functioned as the federally-designated State Health Planning and Development Agency (SHPDA). The Office of State Health Planning (OSHP), the unit within the Department that carries out the SHPDA's responsibilities, developed the first State Health Plan. The plan was unanimously approved by the 70-member State Health Coordinating Council on March 20, 1979, after six public hearings on the first draft of the plan had been held in different parts of the state. Over 2,000 consumers, providers, and government officials attended the hearings where 450 persons testified.

OSHP organized task forces to develop standards and measures to be incorporated into future state health plans. By the end of the year, task forces were developing standards for neonatal intensive care units, long-term care, inpatient psychiatric care, radiotherapy, cardiac diagnostic and surgical services, laboratory, ambulatory care, maternity care, and financial reviews.

Submission of the Hospital One- and Five-Year Plans, which were developed by OSHP in cooperation with the Rate Setting Commission, the Determination of Need Program, the Health Systems Agencies, and the Massachusetts Hospital Association, is an annual requirement for licensed hospitals. The intent is to encourage hospitals to plan in a manner consistent with their own interests, community needs, and the goals and regulations of government. The second year's submissions for the planning period 1979-1983 took place on August 1, 1978. Ninety-eight percent of the 122 acute-care hospitals in the state submitted plans in the two years of the plan's operation.

Health Statistics and Research

The Division of Health Statistics within the Office of State Health Planning is responsible for the collection and dissemination of data on vital events, licensed health occupations, and health facilities in the state. The Division also provides data for the health planning agencies in the state and for many Departmental programs. During the

past year, the Division recorded the following accomplishments:

- Processed and analyzed data for approximately 200,000 births, deaths, marriages, and divorces in the Commonwealth, and published *Public Document*, *No. I*, the Annual Report of Vital Statistics, for calendar year 1978.
- Prepared for publication the Health Data Annual, 1978, a statewide compilation of regional health care data prepared from the annual surveys of nursing homes, hospitals, home care agencies, and residential care facilities.
- The Registry of Vital Records and Statistics prepared and carried out the conversion of coding of all death certificates from ICDA 8 to ICDA 9, the international system for identifying causes of death that is revised every ten years.
- The Health Facilities Unit completed surveys of hospitals, clinics, nursing and rest homes, residential care facilities and home health agencies. A special survey of patients in Massachusetts nursing homes produced comprehensive data never before available.

HEALTH REGULATION

Through its program of standard setting, inspection, licensure, and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has the responsibility for preventing unnecessary expansion of health care facilities.

Health Facility Regulation

In October 1978, the activities of the Division of Hospitals and Ambulatory Care, the Division of Long-Term Care, the Bureau of Engineering and Construction, and of the Ambulance Regulation Program were combined under the aegis of the Division of Health Facility Regulation. The merger resulted in the elimination of many duplicative support services. The establishment of an Office of Director of Compliance strengthened the coordination of all regulatory enforcement activities. All field

activities relating to licensure and certification were coordinated by a Director of Field Offices.

The Division of Health Facility Regulation is mandated by state statute and federal regulation to license or certify for participation in the Medicare and Medicaid programs 450 ambulance services, 200 clinics, 134 home health agencies, 192 hospitals, 140 laboratories, 845 nursing and rest homes, and eight schools for the mentally retarded.

The Compliance Office developed a guidebook to facilitate compliance and assigned a crisis intervention assistant to coordinate all activities to ensure patient safety in case of an emergency. Decertification proceedings were begun in 40 facilities (14 cases were later settled), 16 facilities were closed and five licenses were revoked.

As a result of additional standards promulgated by the Division, all home health agencies must now provide home health aide services, as well as skilled nursing care and therapy, evenings and on weekends. These new standards prompted, in part, the merger of several small agencies to provide more comprehensive care.

To ensure that regulations reflect current standards of emergency medical care, ambulance regulations regarding equipment, vehicles, and training of personnel were redrafted. Regulations for advanced life support were being developed for implementation in fiscal year 1980.

A pilot project developed by the Department for the operation of birthing rooms in 15 hospitals was fully implemented. Birthing rooms, which combine the facilities of both labor and delivery rooms, offer a more homelike atmosphere than the conventional delivery room.

Health Facilities Development

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for anlyzing the need and cost-effective allocation of health care facilities within the state. The purpose of the legislation was to contain the costs of health services by eliminating duplication of facilities and services, by encouraging multi-institutional sharing of resources, and by assessing needs for expansion and equipment.

The Determination of Need Program, in conjunction with the Office of State Health Planning, worked on guidelines for several health services for use in the review of Determination of Need applications. Guidelines for alcoholism, ambulatory care, diagnostic radiology, emergency departments, end-stage renal disease, and intensive and coronary care units were presented to the Public health Council and adopted.

The Office of Health Facilities and Development reviewed all applications for construction or expansion of a health care facility, or acquisition of equipment that entails a capital expenditure of \$150,000 or more. In fiscal year 1979, the Determination of Need staff reviewed 173 proposed projects with capital expenditures of approximately \$198,000,000. The Public Health Council denied applications for projects with an estimated capital cost of approximately \$1,000,000.

Dental Health

Staff of the Division of Dental Health worked on the administration of Medicaid dental services, and served with staff from the Department of Public Welfare as a professional service review. The 96,961 claims reviewed during the year represented a 2 percent increase over the previous year. Review of these claims resulted in an average cost reduction of 14 percent to the Commonwealth.

Emergency Medical Services

The Office of Emergency Medical Services (OEMS) continued to work with local communities and health care providers to improve the delivery of emergency medical care. An important role has been the training of emergency medical personnel throughout the state. The number of registered emergency medical technicians (EMT) has risen dramatically from less than 300 in 1973 when OEMS was established to more than 16,000 in fiscal 1979.

Programs to upgrade resources and to broaden local and statewide emergency medical service networks functioned throughout the year:

 Training of emergency room nurses was a major initiative. The Critical Care Emergency Department Nurse Education Program provided 10 courses for 228

- emergency nurses from 73 acutecare hospitals.
- The statewide EMS telecommunications system was enlarged. Centralized medical control consoles were placed in the Worcester and Plymouth areas to coordinate hospital-to-ambulance radio use for more than 80 communities.
- Public education activities continued. More than 60,000 persons were trained in cardiopulmonary resuscitation as part of the Massachusetts Heart Saver Program.

MANAGEMENT SERVICES

Administration

To improve the process involved in purchasing contract services, the Department completed a manual explaining to division personnel (and through them to providers) how state regulations work and what paperwork must be done on each contract for services. The manual aimed to provide a uniform set of rules for all divisions. In addition, the Department established an internal standard for length of time contracts or invoices could be held at any step, to speed up paperwork and reimbursement to providers.

The Department began to use certified public accounting firms to audit selected contracts from the \$20 million purchase-of-service network to ensure the Department's receiving the number of units at the cost for which the Department contracted. The \$9,000 invested in audits has yielded about \$40,000 in checks returned to the Commonwealth for funds that were mistakenly overbilled by vendors.

Perhaps the most important undertaking of the year was the development of an evaluation project to determine which purchase-of-service programs were working. Program directors and administrators responsible for deciding whether to continue funding a service contract set down program goals in as measurable a manner as possible delay in or prevention of institutionalization of developmentally impaired children, or aid to parents in working with handicapped children. Evaluation tools to measure the effect of the program on evaluation project involved the Infants Program (early intervention with developmentally delayed children from birth to three years of age) in Family Health Services.

NEW PROGRAMS — PERSPECTIVES FOR THE NEXT DECADE

HEALTH PROTECTION

Communicable Disease Control

During the school year 1978 - 1979, the Division surveyed more than one million health records to determine the immunization status of children in grades one through 12 in both public and private schools. Ninety-eight percent (550 of 560) of the school systems responded to the survey. School officials certified that all children were in compliance with the immunization law. Future surveys will include only new children entering school.

Recent improvement in the rubella immunization level of children in Massachusetts has resulted in rubella's becoming a disease of adults. It was anticipated that approximately 75 percent of the rubella cases for calendar year 1979 would be reported in adults 18 years of age and older. The Department therefore embarked upon a rubella program for adults that would initially target four main groups: students in institutions of higher learning; persons 30 years of age and younger who give care to patients in hospitals and other health facilities; students and staff in schools of nursing; and patients in obstetricalgynecological and family planning clinics.

Massachusetts launched the first public immunization program in the country for the elderly against pneumococcal pneumonia. The program at the Don Orione Home in East Boston proved that the vaccine was safe, medically effective in preventing pneumonia, and cost effective.

Tuberculosis Control Program

The Division of Tuberculosis Control developed an out-reach program for patients with a history of, or a potential for, unreliability in accepting long-term treatment of tuberculosis to replace an

experimental residency program for such patients. The new program will treat patients through a minimal period of hospitalization, to be followed by a short-term regimen of chemotherapy with services delivered to patients either at home, at work, or on the street by means of a mobile van.

The Division produced and distributed Volume 1 of the State Plan for the Control and Eradication of Tuberculosis in a series that will expound the changing policies, goals, and strategies of tuberculosis control as the Department moves into the 1980's and closer to the eradication of the disease.

Family Health Services

Concern over the lack of established standards for clinical pediatric units expressed by three divisions within the Department led to the development of the Pediatric Project in the Division of Family Health Services. The Divisions of Family Health Services, and Health Facility Regulation, and the Office of State Health Planning worked together to produce clinical guidelines and regulations. By the end of the fiscal year, phase one of the Pediatric Project, which had concentrated on clinical standards and regulations for inpatient pediatric services and emergency room care, was nearing completion.

A new C&Y project was funded at the Brockton Multi-Service Center, a state mental health facility. The contract made available comprehensive pediatric services to children, health and family planning services to high-risk teenagers, and increased medical support to the facility's developmental unit.

Family Health Services has given special attention to the improvement of management capability, establishment of new accountability practices, monitoring of contracted services, review of regulations, and upgrading of standards. Improvement of the overall man-

agement structure was aided by the filling of new positions of regional coordinators to act on behalf of the Division in providing coordination and support for regional activities.

The need for critical analysis and evaluation of the many new school health programs in operation throughout the state led to the formation of an intradepartmental School Health Advisory Committee. Representatives from the concerned units within Family Health Services, the Divisions of Alcoholism, Communicable Diseases, Preventive Medicine, and the Regional Health Offices met monthly to discuss sharing of current activities, potentials for community services, and future coordination.

State Laboratory Institute

The high quality of services provided by the State Laboratory Institute has been built upon a long tradition of research and development. That tradition, which continued strongly during the past year, was reflected in the new programs of the Institute.

- Hepatitis testing the nucleus of a new laboratory was developed by using research funds for study of newly discovered types of the virus.
- Chlamydia laboratory a new laboratory was developed with the use of research funds to provide specialized diagnostic services.
- Laboratory training and education

 with assistance of contracts from the Center for Disease Control, new and expanded training and consultation activities were being undertaken in Massachusetts and in collaborative efforts with other New England States. New uses of the audiovisual capabilities of the state laboratories have been developed to support these programs.
- New immune globulins the pilot

studies for serum globulins to protect leukemic children from potentially lethal viral infections progressed to the point where federal licensure was expected within the year.

Fiscal austerity and reexamination of the unique functions that public health laboratories should fulfill were having some effect on programs of the State Laboratory Institute. To minimize the budgetary pressures upon traditional services, the Institute has taken measures that include a strong effort to increase productivity through personnel evaluation and training; cost-sharing through provision of some service to other state health departments in New England; sharing of space with other divisions of the Department; selective leasing of space (e.g., to diagnostic microbiologists of the new Tufts University School of Veterinary Medicine) and the development of an intensive energy conservation plan consistent with the complex safety requirements of the laboratories. In addition, studies were being undertaken to determine whether there were appropriate areas in which to institute fees-for-service. The activities that would attract priority would be those of benefit principally to individuals rather than to the health of the public at large.

Newborn screening programs have continued to receive emphasis because they are cost-effective and can be carried out reliably only by a large central facility with total compliance and good quality control. Because obtaining the specimens accounts for most of the program cost, expanding the amount of information determinable from each specimen has become a compelling goal. The State Laboratory Institute therefore anticipated that other beneficial assays would follow the recent addition of testing for hypothyroidism.

Preventive Medicine

As part of its program of preventive dentistry, the Division of Preventive Medicine funded five fluoride mouthrinse or tablet programs in five elementary school systems in the state. Programs were placed in communities that were not receiving fluoridated water.

The Division worked with the North Shore Health Planning Council to form the Employer Health Promotion Committee. The aim of the committee was to organize employer-based preventive health programs and to conduct health promotion educational activities. In fiscal year 1979, three employeremployee programs began functioning on the North Shore. Two others will begin in fiscal year 1980. An important aspect of the committee's work was the publication of a resource directory of health promotion programs for employers and employees.

The importance of a strong nutrition unit within Preventive Medicine was underscored by the collaborative efforts of the Division and the Frances Stern Nutrition Center of Tufts New England Medical Center to develop the Massachusetts Nutrition Resource Center (MNRC). MNRC operates a consumer hotline located in the Department of Public Health, where professional nutritionists reply orally and in writing to inquiries from both the public and health professionals.

The Division funded a survey, as part of its hypertension program, to explore the feasibility of using pharmacists in community hypertension control programs. The study included 300 pharmacists in both chain and independent pharmacies in Boston, Worcester, and Springfield. By the end of the fiscal year, no results had been tabulated. The potential for developing continuing education programs to prepare pharmacists for more patient-oriented roles was, however, still being considered.

To strengthen the effectiveness of the Regional Offices and to enhance collaborative activities among other divisions of the Department and community agencies, the Division expanded its professional staff. Three new program specialists were assigned to the Central, Northeastern, and Southeastern Regional Health Offices to develop new initiatives in health promotion.

Regional Health Offices

The four Regional Health Offices have made great strides, despite a shortage of staff and funds, in working more closely with local boards of health, in organizing new health promotion programs, and in planning and promoting a greater sharing of regional resources.

• Central Regional Health Office staff, which continued to be very active in the Central Massachusetts Associated Boards of Health, was represented on several committees of the Health Systems Agency, as well as on such regional committees and groups as the Regional Advisory Committee for Chapter 766, the North Central Early Childhood Identification and Coordination Project, and Family Planning Service of Central Massachusetts. Sharing of resources of the Regional Health Office and Rutland HeightsHospital increased during the year. Regional Office and hospital health educators were working together on a Community Resource Directory for patients seen in the hospital's Multiphasic Screening Clinic.

- Northeastern Regional Health Office staff worked on special health promotion projects in the region. Nurses participated in the development and monitoring of hypertension projects in the Town of Danvers, at the Cape Ann Community Nursing Association in Gloucester, and in the Emerson Hospital Home Care Program. The coordinator of prevention activities organized a "Quit Smoking" program at Tewksbury Hospital that was attended by community residents. In addition to developing a health-education module for 1,000 Junior Girl Scouts in the Merrimack Valley, the coordinator provided consultation to local agencies on smoking cessation and fluoride mouthrinse programs.
- Southeastern Regional Health Office staff completed a needs-assessment survey for local boards of health. Staff canvassed the 105 communities in the region and received responses from 93 health departments, which listed a broad range of public health areas where training programs would be desirable. The top four were state sanitary code enforcement, communicable disease control, orientation to public health law and sanitation, and programs for disease prevention. Regional staff will work with the local boards of health in planning training sessions.
- Western Regional Health Office staff worked more closely with the University of Massachusetts (Amherst) School of Health Sciences, Division of Public Health. The collaboration resulted in the placing of six student interns in the Regional Health Office, the hiring of graduates from the University, and in making more resources available for technical assistance in environmental health, health education, and health administration. The Regional Office developed a contract with the school for producing a comprehensive manual for all local boards of health. By the end of the year, discussions regarding a new curriculum and training program for foodhandling personnel in the Western Region were under discussion.



Food and Drugs

Use of new products or the appearance of old products in unforeseen quantities put strain upon the inspection programs of the Division of Food and Drugs. The increase in the manufacture and sale of quilted clothing became a concern of the Division. Any quilted garment filled in whole or in part with concealed material should be subject to inspection and regulations similar to those that apply to bedding, furniture, and stuffed toys to ensure consumers the purchase of a clean, safe product. The Division therefore proposed legislation that would require the regulation of quilted clothing.

During the past year, the Division became cognizant of the gross adulteration of feathers and down imported from the Orient. In cooperation with other law enforcement officials, the Division began efforts to survey the incoming stocks and to study the character of the imported feathers and down.

The use of urea formaldehyde foam as an insulating material created new tasks for the Division. Homeowners had complained of respiratory difficulties, eye and skin irritations, headaches, vomiting, and severe irritation of the mucous membrane. Inspectional staff of the Division investigated nearly 500 complaints received by the Secretary of Consumer Affairs, and tested 326 samples from homes most severely affected. The concentrations of formalde-

hyde present in the homes ranged from 0.00 parts per million to 0.73 parts per million. Although no upper levels of safety had been established, the presence of any formaldehyde was deemed to produce unnecessary health risks. The Department held two days of hearings in March 1979 to determine the extent of the problem in Massachusetts.

Open-date labeling regulations, prepared by the Division and incorporated into the Uniform Packaging Label Regulations, were approved by the Public Health Council on July 25, 1978. The regulations were to become effective in three stages: July 1, 1979, for perishable foods; July 1, 1980, for frozen foods; and July 1, 1981, for all other foods. Effective dates for compliance were postponed for 10 months following a suit brought against the Department of Public Health by the Grocery Manufacturers of America, Inc. The Supreme Judicial Court of the Commonwealth later upheld the legality of the regulations.

In cooperation with the federal Food and Drug Administration, the Division began to adapt its information on inspection of food services and retail food stores to a data-processing system. The new system will improve the management of inspections by helping the assignment of inspectors and assessing priorities. The Division was also building a data base and a data-recall mechanism to be stored in the Depart-

ment's data-processing center. A recall console will be located in the Division's offices.

Community Sanitation

With the addition of six sanitarians to carry out the functions of personnel that had moved to the Department of Environmental Quality Engineering, the Department was able to provide greater assistance to local communities. Throughout the year, the sanitarians monitored and reviewed compliance of local enforcement agencies with the newly promulgated housing code. They also inspected all state and county correctional facilities, and most local lockups. Seventy-five farm labor camps were certified for occupancy and one was refused. Other activities of the sanitarians included the follow-up of various nuisance complaints, inspection of microwave ovens, and the monitoring and surveillance of fluoridation installations.

By the end of the fiscal year, the new Division of Community Sanitation had been organized, to become operational on July 1, 1979. The Division was to join with the Lead Paint Poisoning Prevention Program, Radiation Control, the Division of Food and Drugs, and Hazardous Water Control in a new Environmental Health Section under the direction of an Assistant Commissioner for Environmental Health.

HEALTH SERVICES

Hospitals

The role of the seven Public Health Hospitals in the overall delivery of health care in the Commonwealth has been under discussion for several years. Many services once the unique contribution of these hospitals have been absorbed by providers in the public sector. While the Department continued to assess the viability of some of the facilities, all the institutions undertook new programs to become more active centers for community health projects.

Lakeville Hospital instituted several new services during the year. A Dental Program began providing comprehensive dental care for handicapped persons on both an inpatient and outpatient basis. The program's outpatient dental evaluation clinic provided services to handicapped persons from the community. Other new programs included a spinal-cord injury evaluation clinic, a physical medicine clinic, and several health promotion programs, such as smoking cessation and weightloss clinics.

During the year, Lakeville Hospital's Planning Committee became active in evaluating existing programs and in exploring future options. The hospital was awaiting the results of an independent evaluation by the Health Collaborative, Inc., concerning possible changes in the future direction of the hospital.

Lemuel Shattuck Hospital carried out an extensive review of systems and procedures in its outpatient department that resulted in major improvements in the delivery of outpatient services. New services covered a broad range of problems through a diabetes-endocrinology clinic, weight control and memory clinics, expanded medical and otolaryngology clinics, a major hypertension study, exercise-stress testing, and a WIC program.

A factor in the improvement in outpatient services was the establishment of the Shattuck Professional Corporation, a medical-psychiatric group practice, which is independent but closely associated with the hospital. Full-time and part-time physicians of the corporation provided medical and psychiatric coverage for the Greater Roslindale Health Center, the Roxbury Comprehensive Community Health Center, and 12 local nursing homes, as well as for the hospital's outpatient department.

Substantial progress was made in the

care of medical geriatric patients by the development of a 25-bed Psychogeriatric Therapeutic Community, a collaborative effort of 15 therapy groups that use multiple therapeutic modalities to improve communication skills, attention span, reality orientation, memory function, and perceptual enhancement. A family group was formed to help members of the patient's family to adjust to the relative's illness and hospitalization.

Plans were progressing for the transfer of 75 Bay Cove Mental Health Center patients from the Austin Unit of the Boston State Hospital to the Lemuel Shattuck Hospital. These young patients — average age is 32 — suffer from schizophrenia, depression, and drugalcohol related illnesses. The Shattuck has not only the space for these patients but experience with a somewhat similar transfer, when 100 medical geriatric patients came from Boston State Hospital. The advantages and disadvantages of the proposed transfer were being discussed by the end of the fiscal year. The major advantages were the improved, more comprehensive care for the patients and a major savings to the Commonwealth through new eligibility for Medicaid and other health insurance reimbursement, as well as improved use of Shattuck facilities and resources.

The Massachusetts Hospital School, widening its scope as a total care center for the physically handicapped child and young adult, continued to plan and implement new, more current services. In fiscal year 1979, the John J. Foley Outpatient Center became a focal point for change within the Medical Services Division. Outpatient professional staff were increased from three to eight. At the same time, an intensive advertising program was designed with implementation scheduled for the fall of 1979. The goal will be to increase use of the outpatient clinic through greater outside awareness of the facility and its services.

The Hospital School also opened a neuromuscular clinic, codirected by an orthopedist and a pediatrician, to provide orthopedic and rehabilitative care for dystrophic patients, and to attend to the special medical problems of these patients with cardiac and respiratory care.

Pondville Hospital, in conjunction with Norwood Hospital and with the help of a Hospice Advisory Board made up of representatives from health and social service agencies in the surrounding communities, established the Hos-

pice Collaborative and a Hospice Resource Center to help individual consumers, groups, and institutions throughout New England learn more about the concept of the hospice. The Hospice Collaborative, one of the first operating hospices in Massachusetts, is an alternate approach to the care of the terminally ill.

To facilitate patient referrals, the hospital added a nurse to the staff to act as a liaison between the hospital and physicians in the surrounding communities. The medical staff began publishing an oncology newsletter to bring news of the latest research in, and treatment of, cancer to over 1,300 physicians in eastern Massachusetts.

Because Pondville Hospital no longer plays the unique role of providing acute oncology services in the Commonwealth, the hospital has experienced a decline in both inpatient and outpatient services. Proposals were therefore made to permit Pondville to become a private hospital by selling it to a private corporation. Legislation to that effect was introduced into the General Assembly but did not pass in the last legislative session. The proposal had the support of both the administration and medical staff of the hospital.

Rutland Heights Hospital, expanding its activities into the community, introduced a Day Program for Adults. The intent of the program is to provide an alternative, supportive setting for adults at risk of being institutionalized, as well as to permit early discharge of certain selected patients.

Tewksbury Hospital, which had to stop all requests for admission to the hospital after December 5, 1978, because of the critical shortage of beds, was looking forward to opening its new wings. The possibility of this move had been strengthened by the visit to the hospital by the Governor and the Chairman of the House Ways and Means Committee, both of whom stated that the new wings should be used.

Western Massachusetts Hospital hired a new respiratory therapist, the first step in expanding both the inpatient and outpatient respiratory therapy programs. Future plans envisioned the establishment of a separate, distinct service for patients with chronic obstructive pulmonary disease. Aware of the importance of interpersonal relations as an adjunct to treatment, the hospital selected an employee to serve as the hospital's patient advocate to help patients "in need of a friend."

Division of Alcoholism

Examining its programs for the future, the Division of Alcoholism listed the four major areas of highest priority: education and prevention, services for special populations, expansion of outpatient service systems, and program evaluation and training. New programs in fiscal year 1979 reflected the Division's consideration of these important issues.

In the first place, the Division completed the development and implementation of four Regional Primary Prevention Centers, which will aid local communities and agencies plan and develop primary prevention activities.

The Division also implemented four innovative Women's Day Treatment Programs that will enable high-risk women to receive treatment for alcoholism problems without serious disruption of their role as parents. The programs offer counseling, rehabilitative and educational services, in addition to the provision of child care.

The Urban Minority Youth Program, through the use of educational and peer-leadership techniques, provided after-school and summer experiences for high-risk youth in Boston's Franklin Park community. Trained young people were used for the development of community workshops and educational resources concerning alcohol and alcohol abuse.

Although outpatient care has been productive in providing needed health services in the most cost-effective manner, the development of ambulatory alcoholism treatment services has lagged considerably behind the development of other categories of care. The Division has therefore sought to work through available health-planning channels, including the Office of State Health Planning's State Health Plan, the Determination of Need guidelines, and the regional Health Systems Plans to lay the groundwork for additional outpatient services.

The heavy emphasis on strengthening the existing system of resources has made program evaluation and training more important than in the past. The Division of Alcoholism has been moving in the direction of the development of program models, evaluation criteria, and field-testing criteria. A statewide training plan and an assessment of manpower needs are now in progress, and will help to increase the productivity and quality of care of all programs.

HEALTH PLANNING

The Office of State Health Planning and the State Health Coordinating Council began the revision of the State Health Plan in the fall of 1979. The second state health plan will consider a wide range of subjects that were not sufficiently developed for inclusion in the first state health plan — cardiac specialties, radiotherapy, cancer management, ancillary services, acute psychiatric care, mental health clinics, psychiatric nursing homes, emergency wards, and a methodology for assessing primary care needs. The second state health plan will also refine the acute care standards for pediatric, maternity, and medical-surgical care. The plan will place greater emphasis upon the financial and economic effects of its objectives upon health care in the state.

In preparing the State Annual Implementation Plan, which will document priorities for health policy implementation for state government, the Office of State Health Planning has compiled lists of objectives of the state health plan by component and by agency that call for state action, e.g., reimbursement changes, new legislation, and budgetary commitments. Members of the OSHP staff have met with the Commissioners of Mental Health, Public Welfare, Public Health, and the Rate Setting Commission to discuss the implementation plan and to solicit their views on priorities in health policy.

At the beginning of the fiscal year, the Health Maintenance Organization (HMO) project began to function within OSHP to serve as a statewide advocacy effort for the development and expansion of HMO's. Supported initially only by state funds, the HMO Project received a one-year staffing grant, in October 1978, from the Office of Health Maintenance Organizations, Department of Health, Education, and Welfare, Since its formation, staff members of the HMO Project have concentrated on promotional activities, regulatory assistance, technical assistance, HMO site selection, and Medicaid enrollment.

HEALTH REGULATION

Health Facility Regulation

The Division of Health Facility Regulation participated in the development of a model, experimental psychiatric nursing home to provide high-level, institutional care for geriatric patients who need long-term care but not in a state mental hospital nor a standard nursing facility. Approval of the model and for the initiation of five such projects has been received. Implementation, however, was dependent upon the interest of operators of nursing homes.

Representatives from the Division served on a statewide task force to develop a multipurpose patient-assessment system to serve as the patient-care referral form for discharge from an acute-care facility and to provide periodic assessment of the patient's care in a long-term care facility. The system would provide the foundation for effective planning of patient care and for improving the quality of such care.

Work began on a survey-by-exception project based on the concept that the nursing homes that provide consistently good quality of nursing care can be identified and should, therefore, not be subject to the full annual licensure-certification survey. The project, which will require the approval of the Department of Health, Education, and Welfare, will match the intensity of the regulatory effort to the quality of the facility under survey and thus reduce state costs through the elimination of unnecessary surveys.

A fundamental change in the approach to hospital surveys and licensure occurred with the agreement between the Department of Public Health and the Joint Commission on Accreditation of Hospitals to develop a joint survey, a preliminary step in a collaborative effort to reduce excessive and costly regulation. The joint survey and the survey-by-exception projects will permit the Division to perform its licensure responsibilities more effectively and to allocate surveyors' time more advantageously.

Health Facilities Development

A major criticism of the Determination of Need Program had been the length of time required for the review of applications. Since January 1979, new procedures reduced the time needed to process each application to under 10 months. In the next fiscal year, the program will revise procedures to streamline further the appliction and review process.

Emergency Medical Services

Statewide Trauma and Cardiac Committees made progress in developing standards and guidelines for a comprehensive approach to the care of patients with trauma and cardiac emergencies.

Regulations were being written for prehospital care given by advanced life support personnel, including paramedics and intermediate level technicians. Three major paramedic programs were established in Boston, Worcester, and on Cape Cod. Intermediate level training will allow emergency medical technicians to administer intravenous fluids and to carry out other procedures under the radio supervision of a physician.

EMS councils in western and central Massachusetts have developed an emergency helicoptor transportation program in conjunction with the Air National Guard. The Military Assistance to Safety and Traffic Program will be available to transport both patients and medical supplies when land transportation is inadequate and speed to a specialized critical care center is crucial.

The Office of Emergency Medical Services has encouraged the development of regional councils, to conform to the boundaries of the Health Systems Agencies, to oversee the organization of local EMS programs. In further support of a regional planning perspective, OEMS has scheduled a conference for EMS planners to examine the direction of Massachusetts emergency medical services in the 1980's.

MANAGEMENT SERVICES

Automation of personnel records and of the billing systems of the Department of Public Health's hospitals, and better training and motivation of the Department's work force are goals that were set by the end of the fiscal year. All the programs will be implemented in fiscal year 1980.

The first major project is the Personnel Management Information System (PMIS) that will automate the current manual personnel-processing system. Through the use of terminals at the Public Health Hospitals, the State Laboratory Institute, and the central office. the Department will have immediate access to information on how many persons work in any one program, and what their salaries are for the present and following year. The automatic system permits immediate daily updating of the personnel roster by entering new employees directly into the Department's automated file via the terminal.

A record of all the day's personnel transactions will be sent on tape to the Division of Personnel Administration every night for their records. The PMIS will thus eliminate the long delay between when a person is hired and when he or she appears on the Division of Personnel Administration's records, and on the payroll. Eventually, the system will be used to produce a tape that the State Treasurer can process to prepare all of the Department's checks on a weekly basis. Such a step would save the Department of Public Health the money paid to outside firms to prepare checks for employees in the Department's hos-

The PMIS will also keep a file on each employee and position and will provide numerous periodic reports, including

personnel budget variance and projected budget figures for the next year. Since the personnel budget is about 57 percent of the total departmental budget, the financial control PMIS offers will greatly improve the Department's ability to keep track of and shape its expenditures.

The automated billing system for the Public Health Hospitals, to become operative in three sites, will ensure that all services patients receive are recorded and entered on their bills. In addition, the use of automated charge systems and the resulting accumulation of accurate statistics will permit the development of rates for ancillary services. Net savings from the project are estimated at \$1.7 million a year, once the system is functioning completely.

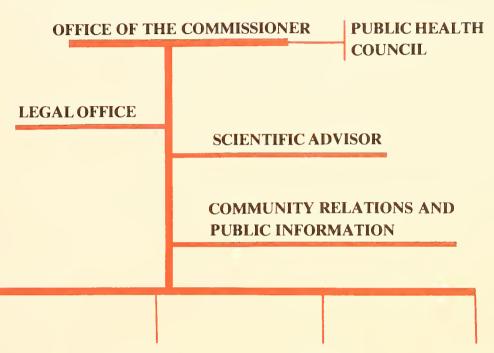
The first steps in the Department's program of training and performance appraisal will be the development of job descriptions for each position and the institution of regular performance appraisal and goal setting for each employee. The Department is strongly committed to the belief that unless its employees can be systematically rewarded for good performance, guided and developed, they will be less productive.

As part of this general program, the Department plans to begin systematic training of its supervisors in areas ranging from how to discipline employees. how to evaluate employees, how to organize the flow of work to how to handle conflicts within the organizations. Such training will be conducted by skill trainers in the central office. Case studies, seminars, group sessions, and periodic refresher and reinforcement sessions will be used extensively. A well trained, highly motivated staff of departmental employees will guarantee that the Department of Public Health is ready and able to meet the challenge of the next decade.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1978 — JUNE 30, 1979

	STATE	FEDERAL	TOTAL
ADMINISTRATION			
1. Administration	1,010,713	1,302,789	2,313,502
2. Long-Term Care Information	775,440	74,964	850,404
Sub Total	1,786,153	1,377,753	3,163,906
PREVENTION/PROTECTION	, ,	, ,	,
1. Radiation Control	62,962	75,772	138,734
2. Communicable & Venereal			
Diseases	2,148,682	701,999	2,850,681
3. Preventive Medicine	802,531	1,172,222	1,974,753
4. Family Health Services	5,796,910	15,516,184	21,313,094
5. Tuberculosis Control	3,138,893	105,779	3,244,672
6. State Laboratory Institute	3,734,141	453,607	4,187,748
7. Consumer Products	1,594,157	48,927	1,643,084
Sub Total	17,278,276	18,074,490	35,352,766
REGULATION			
 Health Facility Regulation 	2,598,504	837,746	3,436,250
2. Determination of Need	309,114	6,451	315,565
Hospital Facilities	465,407	5,533	470,940
4. Dental Health	65,640	30,560	96,200
Sub Total	3,438,665	880,290	4,318,955
HEALTH SERVICES			
1. Hospitals			
Lakeville Hospital	6,036,577		6,036,577
Lemuel Shattuck Hospital	13,536,297		13,536,297
Mass. Hospital School	4,889,749		4,889,749
Pondville Hospital	5,660,281		5,660,281
Rutland Heights Hospital	5,035,004		5,035,004
Tewksbury Hospital	13,161,005		13,161,005
Western Mass. Hospital	4,285,584		4,285,584
2. Alcoholism Program	9,836,770	3,893,031	13,729,801
Sub Total	62,441,267	3,893,031	66,334,298
HEALTH PLANNING			
1. Health Planning	218,343	790,005	1,008,348
2. Health Statistics	532,472	445,777	978,249
Sub Total	750,815	1,235,782	1,986,597
TOTALS	\$85,695,176	\$25,461,346	\$111,156,522

EXECUTIVE OFFICE OF HUMAN SERVICES DEPARTMENT OF PUBLIC HEALTH



EALTH IANNING

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HEALTH PROTECTION

Communicable/Venereal
Disease Control
Environmental Control
Family Health Services
Food & Drug
Regulation
Local Health
Preventive Medicine
State Laboratory
Institute
Tuberculosis Control

HEALTH REGULATION

Health Facility Regulation
Board of Approval and
Certification of
Physician Assistant
Programs
Determination of Need
Dental Health
Drug Formulary
Commission
Emergency Medical Services
Hill-Burton

HEALTH SERVICES

Alcoholism Program
Hospitals
Lakeville
Lemuel Shattuck
Mass. Hospital School
Pondville
Rutland Heights
Tewksbury
Western Mass.

MANAGEMENT SERVICES

Budget Data Processing Fiscal Personnel ANNUAL REPORT 1978 - 1979



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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1980

Alfred L. Frechette, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

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FROM THE OFFICE OF THE

In the year that ended on June 30, 1980, the Department of Public Health was able to achieve two of its main objectives for strengthening its organizational structure to provide more effectively the mandated programs and services required to meet the multifaceted needs of the people of the Commonwealth. Reevaluating its priorities for the next decade, the Department has emphasized the importance of the environment on health. To answer the concerns of both the public and health professionals about the possible toxic effects of contaminants and pollutants in the environment, the Department established an Environmental Health Section, under the direction of an Assistant Commissioner, that became operative on July 1, 1979. Encompassing the Divisions of Radiation Control, Food and Drugs, Community Sanitation, and the Lead Paint Poisoning Prevention Program, the Environmental Health Section has been active in monitoring the health effects of contamination and pollution of the environment, whether in the ambient air, drinking water, rivers and harbors, or in our food supplies. A major responsibility of the section is to monitor the health status of communities through birth and mortality statistics collected and analyzed by the Division of Health Statistics, Office of State Health Planning.

The second major organizational change was the creation of a Community Health Services Section, under the direction of an Assistant Commissioner, to permit greater cooperation among divisions and units that are responsible for providing direct services to the public. The Community Health Services Section includes the Divisions of Family Health Services, Preventive Medicine, and Tuberculosis Control, the Regional Health Offices, and the reactivated Division of Dental Health. The Division of Family Health Services reorganized its staff and instituted an important reform in the administrative procedures for requesting, contracting, and evaluating services. The Division also began a reanalysis of current maternal and child health problems and needs to help make future programs more appropriate and effective. In addition, the Division participated in drafting new pediatric inpatient regulations and initiated a research program on the reduction of childhood accidental injuries. With the appointment of a new director, the Division of Dental Health, which had, in the past years, concentrated its efforts solely on the professional management of the Department of Public Welfare's Dental Medicaid Program, has begun to redirect its energies toward programs of dental treatment, prevention, research and education. By the end of the fiscal year, the Community Health Services Section was in place and ready to begin functioning.

The reestablishment of the Division of Health Education as an independent division within Management Services allowed the Department to reopen communication with local boards of

health. The Division of Health Education will strengthen the Department's capability to respond more effectively to the needs of local boards of health, and to facilitate the continuing education of local health officers.

As part of its mandate to protect the well-being of the people of the Commonwealth, the Department has reaffirmed its commitment to programs of disease prevention and health promotion. These expanded projects include school-based antismoking programs, school mouth-rinse programs, early childhood screening and accident prevention, alcoholism education geared especially to women and youth, and prevention of hypertension through education and screening.

Today, the Department of Public Health is no longer alone in its concern for creating a system of health services that will be available, accessible and acceptable to all of the people. Federal and state planning agencies, regional organizations, and community groups are all involved in the "business" of health care. Among the many health-oriented groups, the Department has played an increasingly important role in planning and regulating health care services and facilities in the Commonwealth.

The achievements of the Department cannot be judged in terms of one year's activities. Its progress will be measured only after a period of time when longrange results have been more clearly evaluated.

This 66th Annual Report* is a brief accounting of the activities of the Department of Public Health during a year in which the Department has sought strengthen the balance among its three major responsibilities - protection, regulation, and service.

Alfred L. Frechette, M.D., M.P.H.

Commissioner

^{*}In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.

COMMUNITY HEALTH SERVICES

With the formation of a section of Community Health Services. under the direction of an Assistant Commissioner, the Department moved to strengthen the activities of the divisions and units that provide direct services to the people of the Commonwealth: the Divisions of Family Health Services, Preventive Medicine, Tuberculosis Control, and Dental Health, and the Regional Health Offices. Consolidating these units under the aegis of an Assistant Commissioner will allow greater sharing of related activities, increased potential for community services, and better future coordination.

FAMILY HEALTH SERVICES

Improved health services to mothers and children in the Commonwealth remained an important part of the Department's total effort to upgrade community health. Two components of the Division of Family Health Services - Maternal and Child Health, and Services to Handicapped Children-carry out the responsibilities mandated under Title V of the Social Security Act of 1936. To enhance its ability to manage its current programs more effectively and to interact with other units of the Department, the Division of Family Health Services reorganized its administrative structure into four working units within Maternal and Child Health, and two within Services to Handicapped Children.

Maternal and Child Health

• The Special Projects Unit continued to serve mothers and children through Maternal and Infant Care (MIC) and Children and Youth (C&Y) Projects throughout the Commonwealth. All the projects provided mothers and children in low-income neighborhoods with a wide range of services. The Intensive Care for Infants Project, located at the

Baystate Medical Center in Springfield, provided support services to high-risk infants and their families who use the Neonatal Intensive Care Unit. A developmental follow-up clinic for infants from the intensive-care nursery will follow them up to the age of four. The Dental Care Project continued to provide comprehensive dental care at the Shriver Center in Waltham to high-risk, low-income children in Waltham and surrounding communities, and to mentally retarded children from Health Service Area (HSA) IV.

• Closely related to the MIC and C&Y projects, the Women, Infants and Children's Supplemental Food Program (WIC) added three new programs in the state. More than 34,000 mothers, infants, and children through age five, an increase of 7,000 over the previous year, participated in the WIC program, which provides participants with special food packages, nutritional counseling, and health assessments.

• The new Perinatal Unit seeks to reduce perinatal mortality and morbidity and to prevent handicapping conditions through the improvement of perinatal, neonatal, and pediatric health care for infants and children through the age of three. The Division funded six programs of specialized services, including parent education and support, in the state—two in the central region, two in the western region, and two in the Greater Boston area.

Another activity of the Perinatal Unit, the Screening Program for Hearing Impairment, provided diagnostic evaluation of infants and children up to three years of age who were identified as being at risk for hearing loss. Returns from an informational brochure distributed to each maternity and newborn service and to each Neonatal Intensive Care Unit in the Commonwealth provided data on approximately 42 percent of the newborns in Massachusetts. Ten percent of these infants were found to be at risk; over 600 were enrolled in the testing program.



The Pediatric Project, a joint activity of the Division of Family Health Services, the Division of Health Facility Regulation, and the Office of State Health Planning, completed its work. Proposed amendments to hospital licensure regulations relative to inpatient pediatric services and emergency room care received a public hearing in February 1980, and will be presented to the Public Health Council early in the next fiscal year. During the past year, the project helped organize consultant teams of nurses and physicians to assist hospitals in better understanding the proposed regulations and how they will affect the hospitals. Seventynine hospitals that provide pediatric care in Massachusetts were visited; only two refused the service offered.

The Premature Infant Program continued to provide payment of hospital costs for infants under five pounds at birth whose parents do not qualify for Medicaid but who meet the eligibility requirement established by the Department of Public Health. The Division, however, has paid for fewer infants each year as the number of women who qualify for Medicaid has increased. Expansion of the Premature Infant Program to allow for home visits by community health nurses was in the planning stage by the end of the fiscal year.

• The Services for School Aged Children's Unit works to establish and promote standards for health examinations and assessments of schools throughout the Commonwealth, and to promote optimal health through health services, screening, and health education. The unit made available a wide range of services during the year: three renewed contracts totaling \$119,433 were awarded to promote model approaches to school health; 30 school districts on waiver of mandated school health procedures received technical assistance and consultation to develop more flexible, innovative school health programs, as did 50 additional school districts; training was provided to schools for persons conducting vision hearing testing in the schools; about 1,000 hearing aids were purchased for 700 children as part of the Division's Hearing Aid Program. By the end of the fiscal year, planning had been completed to convert a voluntary program of postural screening for scoliosis in 150 school systems into a mandatory program, as a result of passage of legislation in the General Assembly.

Adolescent health and family planning comprise a strong subsection of Services for School Aged Children. The section contracts with existing programs to provide comprehensive health care to adolescents of both sexes, and to reach adolescents at risk for substance abuse, venereal disease, pregnancy and early parenthood. During the fiscal year, 13 programs under contract with the Division of Family Health Services totaled 26,088 visits by adolescents. Six hundred pregnant or parenting adolescent women received intensive ongoing care either through special clinical programs or in schools, under the auspices of the adolescent program. The program also conducted educational sessions that were attended by 12,787 persons, and answered 7,562 phone calls for counseling purposes.

Services to Handicapped Children

The primary goal of the Services to Handicapped Children is the identification of handicapped

children at an early age so that they may have an opportunity to develop to their greatest potential. To achieve that end, the Division established two units:

 The Services for Handicapped Children's Clinic Programs Unit provided or contracted for services to approximately 9,000 children with many handicapping conditions: orthopedic, neurologic, cardiac, plastic, orofacial anomalies, myelodyplasia, hemophilia, cystic fibrosis, and inborn errors of metabolism. During the fiscal year, about 1,500 new patients were admitted to the various clinics for a total of 20,000 clinic visits. Two new clinics were opened during the year-an orthopedic clinic at the Fairview Hospital in Great Barrington, and a developmental clinic at the Leominster Hospital.

The Division also began a comprehensive evaluation of services that will result in a reorganization of the administrative, as well as service, aspects of the unit. Administratively, the goal will be to strengthen the prerogatives of the Regional Health Offices in the development and provision of clinic services. As part of this approach to the delivery of services, the Division developed new financial guidelines that put increased emphasis on family participation for those able to contribute financial-

ly toward the care of their children. The guidelines will be implemented in the next fiscal year. Discussions with representatives of Blue Cross resulted in an agreement under which Blue Cross will reimburse Services to Handicapped Children for drugs provided to covered patients with epilepsy or cystic fibrosis. A clinic system was established for the phenylketonuria (PKU) clinic at the Children's Hospital Medical Center for the collection of third party benefits where applicable.

 The Community Services Unit provides a range of specialized services to multiply handicapped children to allow them to function as independently as possible and to remain in the community with their families. The Division purchases services from appropriate agencies to reinforce the family's ability to nurture multiply handicapped children from birth up to age 21. During the year, 97 children from 92 families received home care service; 257 received long-term residential care; and 32, respite care in pediatric nursing homes.

Because services to the multiply handicapped child are frequently provided by more than one state agency, the Division of Family Health Services continues to function as a referral source. During the year, 103 requests for pediatric nursing home care



came from the Department of Mental Health, the Department of Public Welfare, the Division of Special Education, and from 16 other referral sources.

PREVENTIVE MEDICINE

Created in fiscal year 1977 to serve as the focus of the Department's program to enhance the health status of the Commonwealth, the Division of Preventive Medicine has identified six major program areas for development: early identification of hypertension and intervention, nutrition, accident prevention, substance abuse, occupational health, and dental health. A strong component of all Division-supported services and activities is the evaluation of process and outcome to determine effectiveness.

Public Education and Information

After sponsoring a successful program on child automobile safety early in fiscal year 1980, Division staff, in conjunction with the Governor's Highway Safety Bureau, secured funding from the United States Department of Transportation to establish a Child Passenger Safety Resource Center. In its first three months of operation, the Center collected and reviewed all existing materials on child passenger safety, and selected well-prepared printed and audiovisual materials for distribution. The Center surveyed all hospitals with maternity units in the state and offered them inservice education on the issue of child passenger safety. In addition, three target groups were identified for continued work in the coming year—day-care center personnel, staff pediatricians, and pediatric nurses.

The Massachusetts Nutrition Resource Center, a joint project of the Division of Preventive Medicine and the Frances Stern Nutrition Center of Tufts New England Medical Center, provided informational and educational services to both the public and health professionals. During the year, the staff of professional nutritionists answered over 2,600 mail and phone inquiries on a wide range of common and highly technical questions.

A highly successful poster campaign that stressed the need for public awareness of high blood pressure and its control was completed during the year. The posters, the art work of elementary school children across the state, were judged competitively. The winners were honored at a State House ceremony attended by the Governor and the Commissioner of Public Health. The winning posters were printed as a High Blood Pressure Calendar, 35,000 copies of which were distributed to residents of the Commonwealth.

To use existing health promotion materials more effectively and to benefit from the experience of other states in the delivery of preventive services, Massachusetts became part of the newly formed Tri-State Health Consortium with Connecticut and Rhode Island. The three states have met regularly to share program concepts, materials, and resources. The first jointly prepared pamphlet, "Shake the Habit," aimed at reducing the intake of salt. More than 50,000 copies were distributed in Massachusetts. Coordinated activities of the Consortium promise to yield more effective programming at a minimum increase in cost.

Community Services

The Division of Preventive Medicine's hypertension screening and follow-up program, now in its third year, expanded in fiscal year 1980 from nine to 13 projects at 97 sites in various cities and towns throughout the Commonwealth. More than 11,000 persons were screened for high blood pressure. Many of those identified as hypertensive had been unaware of their condition. The projects made appropriate referrals for treatment and followed the people in their treatment plan. The Division plans to expand the network of screening programs in the next fiscal year with additional funds from the United States Public Health Service. Particular attention will





be paid to workplace settings as project sites.

Antismoking programs of the Division were targeted at adolescents and the general smoker. The school-based programs, carried out by local school administrations, aimed at the prevention of smoking by this vulnerable age group. The curriculum provided factual information as well as techniques to enable a teenager to resist peer pressures to smoke. Approximately 4,700 adolescents took part in the programs provided through contracts with 13 school systems.

A two-session workshop entitled, "How to Quit Smoking On Your Own," was developed and presented by Division staff. Workshops at some of the public health hospitals were offered to 170 adults during the year. Unable to meet the continuing demand for such programs, the Division began to develop materials and procedures to enable local sites to offer the program without dependence on support from the Division.

As part of its program of preventive dentistry, the Division continued its school-based flouride mouth-rinse program in 10 elementary school systems in the state. Over 20,000 children participated in the programs in communities that were not receiving fluoridated water.

Research and Evaluation

The research and evaluation unit of the Division completed a number of research projects and evaluations. The dental health status of school children in Boston was assessed through a comprehensive arrangement with the Forsyth Dental Research Center. The survey of over 2,400 children in grades one through 13 provided important baseline data on the needs for dental care of the children in Boston. The data will be combined with data from a broader survey of the oral health of school children in Massachusetts, the first such study since 1951, to be completed in fiscal year 1981. Information from the study will permit comparison of

the rate of caries among the children living in communities with fluoridated or non-fluoridated water supplies.

The research and evaluation unit concentrated on developing baseline data for the assessment of the Division's smoking-cessation and school-based fluoride mouth-rinse programs. Training workshops in evaluation design and strategy were prepared for different groups, within and outside the Department. Several Division-based research projects in hypertension received national recognition as exemplary studies of protocol in the identification of hypertensives. In addition, the unit has begun to design the research methodology for several studies planned for the next fiscal

Interagency Coordination and Program Planning

Responding to federal directives for health education and risk reduction, the Division assumed responsibility for the formation of a statewide Task Force on Prevention. Members of the task force represented health planning agencies, the State Health Coordinating Council, health promotion and disease prevention groups, and other divisions of the Department of Public Health. The goal of the task force was defined as the coordination of preventive efforts throughout the Department and across many planning levels. During its initial meetings late in the fiscal year, the task force identified some important objectives: a statewide inventory of existing health promotion services and resources, the review and selection of community-based projects for inclusion in the Division's federal grant application to the Center for Disease Control, and an assessment of economic incentives for health promotion.

TUBERCULOSIS CONTROL

The Division of Tuberculosis Control is the single agency responsible for the surveillance of tuberculosis in the Commonwealth, as well as for the development of programs to control and eradicate the disease. To this end, the Division promotes many activities, either directly, by contract, or in collaboration with local boards of health, hospitals, and physicians.

In November 1979, the Division was host to a meeting of national significance on tuberculosis cosponsored by the Department and the Center for Disease Control and supported by the Massachusetts Health Officers Association. For four days, symposium participants reexamined fundamental concepts and basic issues in the control of tuberculosis, and established new directions for public health programs. A summary of the Symposium Report with goals, objectives, strategies, and performance standards for the control of tuberculosis will appear in the Department's column in the New England Journal of Medicine, issue of October 2, 1980.

The Division began to implement the recommendations of the Symposium in several areas:

- Development of a project in conjunction with the Department's Data Processing Section to automate the State Tuberculosis Case Register.
- Informational meetings with tuberculosis clinic physicians, and consultations with the Division's Medical Advisory Committee to develop standards for short-course chemotherapy and intermittent regimens designed to improve treatment compliance.
- Increased emphasis on epidemiology through the recruitment of two new nurses, a redefinition of duties and area assignments, and the collection and tabulation of additional performance data on cases and contacts.

In calendar year 1979, the number of newly diagnosed cases of tuberculosis reported in Massachusetts declined by 17.9 percent —476 cases as compared to 580

in 1978. The 1979 case rate also showed a decline from 10.2 per 100,000 population to 8.19 to move Massachusetts from 29th to 30th position (50th position, lowest) among all states. Among states with high-density urban areas, Massachusetts followed only Ohio for lowest case rate. The case rate in Massachusetts has maintained a constant, gradual decline over the past two decades (Fig. 1), although case rates in urban areas, such as Boston, Cambridge, Fall River, New Bedford, Springfield, Worcester and the Lowell-Lawrence area, remained higher than the state average.

The Division of Tuberculosis Control continued to emphasize reduced hospitalization and early ambulation of tuberculosis patients. The Division provided, by contract, more than 9,000 patient days of care in 10 general hospitals. The Division also provided approximately 30,000 outpatient visits under contract with 44 community hospitals throughout the Commonwealth. In addition, almost \$300,000 worth of tuberculosis drugs, purchased on contract, were delivered to tuberculosis clinics to provide treatment and preventive therapy. Local boards of health, clinics, and neighborhood health centers received supplies for about 80,000 tuberculin

The Division processed notifications from the Center for Disease Control on the health status of classified aliens with tuberculosis or suspect, and of a large number of nonclassified aliens from Indochina. Follow-up services and clinical evaluations were ensured for all classified aliens. The many Indochinese refugees entering the state, an estimated 400 per month, has created a large backlog of tuberverifications. culosis-screening The problem may be alleviated with the aid of a proposed Federal Project for Refugees and the expansion of the Division's data processing project in the next fiscal year.

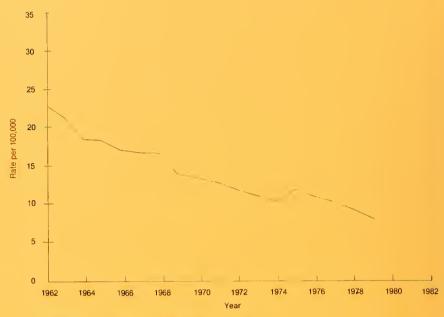


Figure 1. Massachusetts New Tuberculosis Case Rate per 100,000 Population. 1962-1979.

N.B. The apparent increase in rate, starting in 1975, reflects a change in reporting to include reactivated cases with new cases, rather than a true increase.

REGIONAL HEALTH OFFICES

The scope of activities of the Department is reflected in the local health services provided by the four regional health offices in the state. These offices coordinate the Department's general field activities and act as intermediaries between central service programs and local health agencies and citizen groups. Local health agencies receive help either by consultation or by direct assistance in their programs. Activities of regional health office staff include school and personal health services, application of the State Sanitary Code, and planning. As representatives of the Commissioner, the regional health officers inform the Department of the local political, demographic, and social changes in, as well as the health needs of, their regions.

Each regional health office operates a network of Handicapped Children's Clinics and reviews and monitors contracted programs of the Divisions of Family Health Services and Preventive

Medicine. Staff members serve on the Regional Review Board and Advisory Council of the Department of Education, and on the Interdepartmental Team of the Office for Children. Regional staff members also provide inservice educational programs for local nurses, sanitarians, nutritionists, physical therapists, social workers, and members of local boards of health.

Although the emphasis may be slightly different in one or another regional office, each office, to the extent that staff and resources are available, does participate in these activities. Some examples from each region indicate the multifaceted activities of all the regional health offices:

Central Region—Staff completed several immunization surveys of children in day-care centers, children in kindergarten, new children entering school, and validation of school immunization records. Analysis of the re-

sults showed that almost 100 percent of the children surveyed were immunized against the seven immunizable diseases. The Central Region had an outbreak of Kawasaki disease - five children were stricken with this rare illness. The dental health program emphasized the reduction in the incidence of dental caries. Ten communities participated in the Fluoride Mouth-Rinse Program that reached over 3,000 school children.

- Northeastern Region-Public health nursing advisors continued to provide educaopportunities tional nurses in community agencies. About 200 nurses attended five different programs during the year. Technical assistance and consultation were provided to local boards of health and homehealth agencies on request. Two home-health agency grants were awarded to the Cambridge Visiting Nurse Association, to become operative in the new year.
- Southeastern Region—The Postural Screening Program for Scoliosis expanded into five new school systems including the Cities of Attleboro and New Bedford. Additional screening review sessions were organized in the Lakeville and Norfolk County Hospitals and the Parmenter Health Center for nurses and physical education instructors already involved in the program. Ten new disease prevention/health promotion programs were funded in local communities to bring the number supported by the Division of Preventive Medicine to 13. A protocol for management of the local projects and contracts were developed jointly by central and regional office staff.
- Western Region Staff from the Services to Handicapped Children's Program participated in the development of

a coordinating council of all area agencies that serve handicapped children. In addition, the regional office's public health nursing advisor organized a four-day workshop on Care of Children with Special Needs in a School Setting, held at the Shriver Center in Waltham. After a year of planning and meeting with the Regional Health Officer and other staff, Belchertown and Ware, towns in Hampshire County, officially formed the Quabbin Health District to hire and supervise jointly a health officer, clerical worker, and laboratory. In the new district, each board of health will retain full autonomy. A costsharing grant was awarded to the two towns by the Department.

DENTAL HEALTH

The appointment of a new Director of Dental Health in February 1980 led to a reassessment of the goals and objectives of the Division of Dental Health. A number of traditional dental public health projects were revitalized, some new measures begun, and steps taken to coordinate dental activities of other divisions with, or to consolidate them into, the Division of Dental Health.

During the past 10 years, the Division had staffed the Dental Review Board of the Department of Public Welfare's Dental Medicaid Program. In fiscal year 1980, the board reviewed 20,150 surgical claims with a total value of \$474,342. Review of these claims resulted in a reduction of \$122,342. representing 25 percent of total dollar volume. Over 90,000 prior approvals were also processed. At the end of the fiscal year, the system for professional review was transferred to the Department of Public Welfare.

The Division was thus able to redirect its resources toward other programs. During the last four months of the fiscal year, the Division initiated preliminary activities in the following areas:

- Fluoridation In conjunction with the Environmental Health Section, the Division established the Massachusetts Fluoridation Resource Center in March 1980. The Resource Center assumed responsibility for a statewide public awareness program on the benefits of fluoridation, as well as for technical assistance to communities interested in fluoridating their water supplies. Through the Center's efforts, seven Massachusetts communities with a combined population greater than 250,000 decided to implement fluoridation, and will receive the necessary funds to do so during fiscal year 1981 through a federal grant administered by the Department. Data indicate that once the full benefits of fluoridation are available for the 3,000,000 residents of the Commonwealth who are on fluoridated public water supplies, \$36,000,000 in potential dental bills will be saved annually.
- Local Boards of Health— The Department reaffirmed its support of local dental health projects, a support that had diminished during the past 10 years. The Division began reexamining its role in support of these projects, many of them school fluoride mouth-rinse programs, funded either locally or by the Department. In fiscal year 1981, the Division will begin technical assistance to the 58 local boards of health with dental programs.
- Assistance to Other Divisions and State Agencies—The Division was available for consultation and advice to other divisions in the Department and to other state agencies.
- Research in Dental Public Health—The Division of Dental Health carried out three research projects to assess dental public health needs, appropriate methods of prevention, and utilization of resources. A committee convened by the Director advised the Board of Registration in Dentistry on what questions to ask on the

Table 1.
Percentage of Immunized Children Entering Kindergarten 1973-1980.

								In	Percent crease Over
	`	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1973-74
Diphtheria Tetanus Whooping Cough	DTP	88.60	93.51	95.04	96.21	95.82	96.99	97.57	10.12
Polio	,	86.20	92.04	94.10	95.84	94.25	97.50	97.95	13.63
Measles		90.30	93.53	94.60	96.21	98.32	98.60	98.86	9.48
Mumps		59.30	69.19	78.00	84.56	89.93	92.79	98.69	66.42
Rubella		62.00	70.41	78.51	84.35	90.04	93.32	98.67	59.15

biennial dental relicensure form. Results of this first survey of dental practice in Massachusetts will be reported in fiscal year 1981. A second project studied the use of vitamins containing fluoride by the children in the Medicaid population. Results indicated that only enough fluoride was being prescribed to cover approximately 6 percent of the children. A final project studied the cost of dental education in Massachusetts and its effects on the future supply and distribution of dentists in the state.

• Education of Dental Health Professionals—The Department reinstituted its training program for dental students and dentists in public health, and assigned two undergraduate dental students to work on various projects in the Division.

COMMUNICABLE DISEASE CONTROL

The Division of Communicable and Venereal Diseases, which reports directly to the Commissioner of Public Health, carries out health protection activities that are the direct responsibility of state government. These encompass health surveillance and disease control to guard the health of the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and assessment of threats to the population.

COMMUNICABLE DISEASE CONTROL

The statewide immunization programs of the Department, which expanded as new vaccines became available, continued to record progress in controlling measles, mumps and rubella:

 Measles down from 19,612 cases in 1965 to 15 cases in 1979, a decrease of over 99 percent.

 Mumps down from 9,024 cases in 1968 to 192 cases in 1979, a decrease of 98 percent

 Rubella down from 1,461 cases in 1969 to 491 cases in 1979, a decrease of over 66 percent.

These programs not only prevented illness and death but saved the Commonwealth approximately \$14,000,000 in actual costs for medical care and institutionalization of patients.

Massachusetts, which has been on a maintenance immunization program against polio since polio vaccine became available, has not had a single reported

case of polio since 1968. A total of 476,927 doses of trivalent Sabin oral polio vaccine were administered by local boards of health, private physicians, clinics and hospitals. The annual immunization survey of children (68,988) entering kindergarten showed more than 97 percent in 1979 had already received three or more doses of polio vaccine. The percentages of these children immunized against polio and the six other immunizable diseases all showed impressive increases over 1974 (Table 1).

During the 1979-1980 school year, the Division of Communicable and Venereal Diseases also surveyed the school health records of 39,335 new children entering grades one to 12 in both public and private schools. Immunization levels for these children were as follows: DTP, 98 percent; polio, 98 percent; measles, 99 percent; mumps, 89 percent; and rubella, 91 percent. The Division continued its survey of children (58,922) in day-care centers and found substantial increases over the previous year:

Percent Immunized.

					Percent Increase Over
	<u>1975-76</u>	1977-78*	1978-79	1979-80	1975-76
DTP	86.73	90.99	94.23	95.60	10.23
Po!io	85.71	89.83	94.91	96.13	12.16
Measles	89.31	93.22	95.83	96.79	8.38
Mumps	77.27	85.93	92.78	96.28	24.60
Rubella	76.0 0	85.36	92.46	96.27	26.67

^{*}No survey had been conducted in 1976-1977.

Recent improvement in the rubella immunization level of children in Massachusetts has resulted in rubella becoming a disease of adults. Of the cases reported in 1974, 20 percent were of adults as compared to 78 percent in 1979. This trend will probably continue since more than 91 percent of children under 18 years of age are protected with the vaccine. The Division has, therefore, continued the rubella program for adults, initially targeted at four main groups: students in institutions of higher learning, persons 30 years of age and younger who provide patient care in hospitals and health facilities, students and staff in schools of nursing, and patients in obstetrical-gynecological, and family planning clinics.

Through a grant of \$218,809 from the United States Public Health Service, the Division launched an influenza immunization program for high-risk persons. During the flu season, 167,212 persons were immunized. a 15 percent increase over the number immunized in the previous year. The vaccine has proven to be reaction-free; no adverse reactions from the flu immunization were reported. Again, no association between flu immunizations and the occurrence of the Guillain-Barré syndrome was found in Massachusetts or elsewhere in the United States.

The results of the Commonwealth's public pneumonia immunization program for the elderly, carried out in the previous fiscal year, indicated that the vaccine was safe, cost-effective, and reduced mortality by 10 percent among the elderly who had contracted pneumonia. Because the pneumoccal vaccine is free from systemic reactions, the Division recommended simultaneous flu and pneumonia immunizations in different arms. This policy has been endorsed by the Massachusetts Medical Society and the United States Food and Drug Administration.

The reported incidence of babesiosis, a malaria-like illness for which no effective chemotherapy is now available, has been increasing. In Massachusetts, a focus of the disease exists on the islands of Nantucket and Martha's Vineyard. In fiscal year 1980, five identifiable cases were reported—three on Nantucket, one on Martha's Vineyard, and one, a Pembroke man. The latter patient acquired the disease in a transfusion, the first documented case in medical literature. The locale of the exposure of a sixth case could not be determined.

VENEREAL DISEASE CONTROL

Of the 14 sexually transmissible diseases, seven—gonorrhea, trichomonas vaginitis, monilial vaginitis, nongonoccocal urethritis and scabies—were epidemic in Massachusetts and in the nation. Massachusetts has about one and one-half cases of male gonorrhea to one case of nongonoccocal urethritis, which may soon become the number one venereal disease in the United States.

The 9,886 cases of gonorrhea reported in the calendar year 1979 represented a decrease of 11.5 percent from 1978 but constituted a 30.8 increase over the 7,481 cases reported a decade earlier. Gonorrhea continued to be the number one communicable disease in the state (Fig. 2).

For calendar year 1979, primary and secondary syphilis declined by 16.8 percent from 1978—344 cases in 1978 as compared to 286

cases in 1979—accompanied by an overall decrease of 1.8 percent in all stages of reported early syphilis, congenital and other types of syphilis. An important factor in the Division's control effort was the syphilis interview-contact-tracing procedure used by the Division's staff in the 21 state cooperating venereal disease clinics with 95 percent of the early syphilis cases reported to the Department of Public Health.

The Department's program for the screening of asymptomatic women for gonorrhea continued with the renewal of a federal grant for \$535,640. During calendar year 1979, the program examined 152,694 women by culture at approximately 100 participating facilities. Of the women examined, 5,202, or 3.4 percent, were found to have the disease.

The grant also allowed the Division to continue its program for the diagnosis and treatment of gonoccocal pelvic inflammatory disease (PID). Protocols with standards for the diagnosis and treatment of the disease were instituted in over 30 hospitals located in areas of highest incidence. Measures for ensuring the rapid epidemiologic follow-up of contacts, many of whom are asymptomatic men, were established. During calendar year 1979, 396 cases of gonoccocal PID were reported.

The Department continued its three-pronged program of education, treatment, and control in its attack upon venereal disease. The

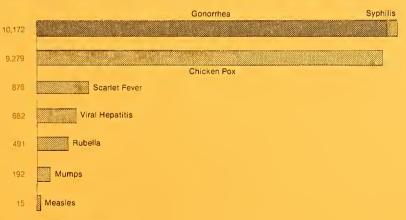


Figure 2. Communicable Diseases in Massachusetts, 1979.

21 cooperating state venereal disease clinics in the outpatient departments of general hospitals had 47,533 patient visits for examination and treatment during the fiscal year. The cost, which includes epidemiologic investigation, was approximately \$25.95 per patient visit.

The Division provided clinical and epidemiological training to physicians from the Harvard School of Public Health, medical students from Boston University and Tufts University Schools of Medicine, and to nurses and nurse practitioners.

pret engineering data and laboratory analyses, and to provide technical advice and expertise to the public.

Cognizant of the fact that environmental health will be a key concern in the next decade, the Department worked to strengthen the newly established Environmental Health Section. Budgetary constraints, however, prevented the employment of a full complement of toxicologists, epidemiologists, and pathologists. Despite these shortages, the Department sought to find the link between environmental agents and in-

plies, and hobbies were collected. Statisticians and environmental health professionals were studying the data to determine the link between any of the factors and diseases. The report will appear in fiscal year 1981.

Cancer mortality data were also studied for the municipalities of Acton, Bedford, New Bedford, and Pittsfield after the residents had been exposed to either water polluted with organic chemicals or environmental agents such as polychlorinated byphenyls (PCBs).

In November 1979, the Department banned the use of urea for-



ENVIRONMENTAL HEALTH

The Environmental Health Section, which includes the Divisions of Radiation Control, Food and Drugs, Community Sanitation, and the Lead Paint Poisoning Prevention Program, works closely with the Department of Environmental Quality Engineering to establish standards for monitoring environmental hazards, to inter-

creases in deaths from certain diseases. With the cooperation of the Center for Disease Control and the National Institute of Occupational Safety and Health, the Department completed a medical case-control study of victims of childhood leukemia and of victims of liver and kidney disease in Woburn. Data on residential and medical histories of the victims and their families, school histories, environmental exposures, sources of drinking water sup-

maldehyde foam as an insulating material in homes. Homeowners had complained of respiratory difficulties, eye and skin irritations, headaches, nausea, nosebleeds and dizziness. At least 10 Massachusetts families were forced to abandon their homes due to the severity of the reactions. During the fiscal year, the Division of Food and Drugs tested 165 samples from homes affected by the presence of the foam. The concentrations of formaldehyde in

the homes ranged from 0.00 parts per million to 1.0 parts per million. Although no upper levels of safety have been established, recent test results reported by the Chemical Industry Institute of Toxicology indicated that formaldehyde is a potential causative agent for cancer in humans. The Department, by the end of the fiscal year, was working on regulations to indicate what procedures consumers must follow to have the foam removed from their homes and repurchased by the responsible parties.

The Department was represented on the Legislative Commission on Hazardous Waste, which was responsible for determining how sites should be selected for hazardous waste disposal. The Department stressed methods to safeguard the health of the residents in the vicinity of disposal sites and insisted that local officials have a voice in determining the location of a site.

The Department continued to serve on the Pesticide Board, which formulates pesticide policy for the state. During the past year, several communities have questioned the use of certain pesticides in their towns. Although the Department had determined from available mortality records that the public's health was not affected by the use of these pesticides, it maintained its watch on the use of pesticides to avoid unnecessary exposure to potential carcinogens.

As a member of the Special Legislative Commission on Asbestos, the Department was instrumental in obtaining funds for the removal of asbestos from public buildings, including schools. By the end of the fiscal year, the Department was investigating the need for regulations to protect the public when asbestos is removed.

RADIATION CONTROL

The Radiation Control Program, which is responsible for the protection of public health from all sources of radiation, carried out surveys of diagnostic and thera-



peutic X-ray units in hospitals, private medical and dental offices, and of nuclear medicine departments in hospitals and educational institutions. Surveys were conducted at universities, secondary schools, and other institutions that are registered to use radioactive material. Program personnel also surveyed color TV receivers, microwave ovens, video display terminals, devices that use lasers, and many consumer products that contain radioactive

material. Because many of these devices produce nonionizing radiation, rules and regulations of the Department were modified to include nonionizing, as well as ionizing, radiation control.

A major activity of the program is extensive environmental surveillance and inspection of fixed nuclear power stations. Personnel visited sites every two weeks to ensure the proper operation of monitoring equipment. Thermo-luminescent dosimeters to



check the data received from the power companies were placed around each reactor and changed monthly.

Personnel have been trained to respond to radiation emergencies, and plans for such a response have been coordinated with federal, state, and local personnel.

Staff of the Radiation Control Program, responsible for responding to radiation accidents and incidents throughout the Commonwealth, served as the principal coordinators of the Nuclear Incident Advisory Team (NIAT) and participated in monthly training sessions. NIAT includes consultants from academic and industrial institutions throughout the Commonwealth.

The Radiation Control Program maintained responsibility for approving plans for radiation protection for all facilities involved in construction, alterations or reconstruction. Surveys for these facili-

ties are conducted after completion of the work. Additionally, personnel served as primary radiation control experts to other state agencies such as, the Departments of Environmental Quality Engineering, Energy, Public Safety, and Transportation, and the Civil Defense Agency.

In cooperation with the Bureau of Radiological Health of the Federal Food and Drug Administration, the Radiation Control Program initiated a campaign to make consumers aware of their responsibility to inform physicians and dentists of their past X-ray history. The program also worked to inform the public of the benefits and risks of X-ray treatment.

The participation of the Radiation Control Program in the New England Radiological Health Compact permits the Department to cooperate with the other five New England States in radiation health activities.

LEAD POISONING PREVENTION PROGRAM

The Department's Childhood Lead Poisoning Prevention Program provides screening for children who are at risk, identifies and works to eliminate lead hazards in the environment, and conducts educational programs for both the medical and lay community on the health hazards of lead. During fiscal year 1980, the laboratory of the program processed more than 95,000 specimens for lead toxicity—an 8 percent increase in volume over 1979. Of the approximately 80,000 children screened, 5,000 (6 percent) had elevated levels of lead in their blood.

Staff of the Childhood Lead Poisoning Prevention Program inspected dwellings of all children under the age of six with evidence of lead toxicity, and any home of a child under the age of six upon request by a parent or guardian. Increased public awareness of the problem of lead toxicity resulted in increased requests for housing

inspections, which outdistanced the field staff's capacity to assist in confirmation, referral for treatment, and hazard abatement. Staff has, therefore, enlisted the support of local boards of health in the inspection process. Inspectors of the program have been training local code enforcement inspectors in lead poisoning prevention and lead paint inspection procedures.

In cooperation with the United States Department of Health and Human Services, the Childhood Lead Paint Poisoning Prevention Program has been working to coordinate screening activities with federally-funded child health care programs. Representatives from WIC and the Early Periodic Screening, Diagnosis, and Treatment (EPSDT, known as Project Good Health in Massachusetts) Program, and the Lead Paint Poisoning Prevention Program have met to draft plans. The Office for Children has also expressed support.

Data collection has been a high priority for the program. A new data management system was in the planning stages by the end of the fiscal year. When operative, the system will provide accurate data for evaluation of the needs and accomplishments of the program, as well as data for transmittal to local boards of health.

DIVISION OF FOOD AND DRUGS

The Division of Food and Drugs is responsible for protecting the public from the harmful effects of chemicals and pesticides, adulterated foods, unsterilized bedding and upholstered furniture. The Division is also responsible for the registration of pesticides, the licensing of cold storage warehouses, bedding, upholstered furniture and stuffed toys, out-ofstate soft drink and frozen dessert plants, manufacturers of methyl alcohol, manufacturers of narcotic drugs and vending machines, sellers of hypodermic needles and syringes, the licensing of meat and poultry establishments. and the registration of renderers

and manufacturers of animal food.

When the quality of products is not maintained and regulations bypassed, the Division has the power to revoke licenses and suspend operations. During the past year, the Division held 263 hearings resulting from inspection of food and drug establishments. Violations did not, in all cases, constitute a health hazard. The Division also investigated approximately 600 complaints from consumers concerning food, drugs, and hazardous substances.

The Division's laboratory analyzed products brought in by the Division's inspectors, as well as materials submitted by any regulatory agency for specific analysis used for enforcement of legislation. The laboratory also made analyses for charitable organizations with regulatory authority. The Division cooperated with the Massachusetts Departments of Food and Agriculture, Public Safety, Education, and Natural Resources, and the Consumers' Council in programs of mutual interest.

Division inspectors permanently stationed at the fish piers in Boston, Gloucester, and New Bedford ensured the wholesomeness of all fish coming into the main piers of Massachusetts. During the fiscal year, the Division made 16,416 inspections, exclusive of inspections for paraly-

tic shellfish poison, and collected 2,044 samples of various seafoods for analysis. The Division also monitored all market samples of shellfish to guarantee that no shellfish contaminated by Gonyaulaux tamarensis, the paralytic toxin, reached the public. Seafood samples collected from the New Bedford area showed trace levels of contamination by polychlorinated byphenyls. Lobsters collected from the outer harbor did not show excessive levels, but lobstering in the inner harbor continued to be forbidden.

The facilities of the Division's laboratories both in Boston and Amherst were overtaxed by demands for analysis of drugs submitted by law enforcement agencies. The Division analyzed 110,000 samples in fiscal year 1980, an increase of 69 percent over the 76,000 samples in 1970. The Division noted an increase in the use of all illicit drugs, but the greatest increases were in the use of heroin, cocaine, and phencyclidine (PCP, commonly called angel dust).

Under the provisions of Chapter 111, Section 200, of the Massachusetts General Laws, burn injuries that affect 5 percent or more of the surface area of the body must be reported to the Division. During fiscal year 1980, the Division received reports of 923 injuries and four deaths. The greatest number of injuries, 317, were















attributed to water and other liquids; three of the deaths were the result of burns by direct flame. An interesting statistic was the absence of any reports of injury or deaths related to fabrics. This may be the result of the passage of the Flammable Fabrics Act.

COMMUNITY SANITATION

The Division of Community Sanitation was awarded a \$160 million federal grant to implement fluoridation programs in the Commonwealth. As a result, the City of Gloucester and the Town of Canton were able to purchase and install fluoridation equipment; and the City of Haverhill and the Town of Weymouth, to upgrade their fluoridation equipment. Two towns, Bedford and Marlboro, took initial steps to institute a fluoridation program.

Sanitarians in the Division responded to an increased number of complaints and inquiries about violations of the State Sanitary Code concerning residential housing. The Division worked closely with local boards of health to resolve the problems. In some cases, the Department had to take direct action to ensure enforcement of the code.

Throughout the year, Division sanitarians inspected all state and county correctional facilities at least twice. The Department declared the Deer Island House of Correction unfit for human inhabitation because of the many health and safety problems observed there. During the summer months, the sanitarians inspected approximately 10 percent of the recreational camps in the state. Other activities of the Division included the follow-up of general nuisance complaints, and those relating to rodent control, farm labor camps, and subsurface sewage disposal.

The Division worked closely with othe divisions of the Department, and with other state agencies including the Office of the Attorney General, the Secretary of State, the Office for Children, and the Department of Public Welfare.

HEALTH SERVICES

Through the operation of its seven public health hospitals, the Department has been able to supplement existing resources on a statewide basis and to assume special responsibilities to ensure comprehensive health care to the community. The hospitals have worked closely with regional planning groups and community groups to develop programs for needed services that are not provided by voluntary or private hospitals, or by other health agencies. Detoxification and rehabilitation services are also available through the Department's community-based alcoholism grams. The State Laboratory Institute, through its three major divisions - Biologic, Diagnostic, and Newborn Screening - continues to provide many high-quality services to protect the health of the people of the Commonwealth.

HOSPITALS

The role of the seven public health hospitals in the overall delivery of health care in the Commonwealth has been under discussion for several years. Many services once provided only by these hospitals have been absorbed by the private sector. A major independent evaluation of the hospitals was completed in the fall of 1979. The study concluded that the hospitals, in general, play an important role in the delivery of health care in the state. The hospitals, therefore, continue to provide a broad range of clinical services to meet the needs of patients with long-term but remedial disabilities. These services are complementary to those provided by the private sector, and do not duplicate, or compete with, services available elsewhere. The hospitals' services and programs are briefly summarized.

- Lakeville Hospital—A 130bed chronic disease rehabilitation facility located in Middleboro, in the southeastern region of the state, Lakeville Hospital has an inpatient census divided equally between pediatric and adult patients. Although the average inpatient census decreased by 1.4 percent in fiscal year 1980, the number of outpatient visits to the hospital's many specialty clinics increased by 24.9 percent. In addition to the clinics that emphasize physical and medical rehabilitation, the hospital's outpatient dental evaluation clinic provided services to handicapped persons in the community. Other programs included a spinal-cord injury evaluation clinic, a physical medicine clinic, and smoking cessation and weight-loss clinics. The 10-station renal dialysis unit, which serves as a regional resource, increased the number of treatments by 9.4 percent-from 5,527 in fiscal year 1979 to 6,047 in 1980. Lakeville's role as a regional resource expanded when the hospital became part of a multi-institutional planning committee for the delivery of health care in southeastern Massachusetts.
- Lemuel Shattuck Hospital-Located in the Jamaica Plain section of the City of Boston, the Lemuel Shattuck Hospital, a facility with 250 beds, provides inpatient care to patients suffering acute episodes of chronic illness, and outpatient follow-up. Medical and surgical services are provided to other state agencies, including the Department of Mental Health and the Department of Correction. The 75-bed medical geriatric unit serves former patients of the Boston State Hospital. The 15-bed medical correction unit operated at well over 100 percent occupancy, and negotiations were begun to expand the unit.

As a result of improvements in the delivery of outpatient services to former patients and to patients from neighborhood health centers and nursing homes, the number of outpatient visits in fiscal year 1980 increased by 4.9 percent from 24,751 in 1979 to 26,016. The renal dialysis unit increased the number of treatments by 9.1 percent—from 7,473 in 1979 to 8.224 in 1980.

Lemuel Shattuck Hospital was the recipient of a major, four-year grant of \$600,000 from the Robert Wood Johnson Foundation to help fund an innovative chroniccare program for nonhospitalized patients. The Shattuck was one of eight hospitals in the nation chosen to participate. Working in cooperation with the Dedham Medical Associates, a 42-member private group practice, the Greater Roslindale Health Center, and Roxbury Comprehensive Health Center, the program concentrated on patients with arthritis, diabetes, hypertension, pulmonary and heart disease and cancer. The concept of total health care integrated many health services - medical, nursing, psychological, social and rehabilitative - into the project.

At the end of the year, plans were completed for a new, outpatient geriatric program to serve both the elderly and their families in helping them to cope with the problems and changes that are part of the aging process. In addition, the hospital planned to open two long-term wards devoted primarily to difficult community patients and thus continue to move in the direction of a gerontology center.

• Massachusetts Hospital School—The Massachusetts Hospital School, located in Canton, is a unique institution that provides medical, educational, and restorative services to physically handicapped but intellectually able children up to the age of 21. The Hospital School continued to stress shorter lengths of stay and an acceleration of community-oriented programs. The trend of placing and keeping handicapped children in the community-oriented programs.



nity has increasingly resulted in a core population with more severe disabilities.

The School's continuing programs included the Cole Harrington Laboratory School, a day-care center for primarily able-bodied preschoolers, which provides practical child-care experience for students of the Hospital School. The Donovan House allowed students preparing to live independently in the community to participate in an on-campus, transitional housing unit. To strengthen

the program, which has demonstrated its effectiveness over the past three years, the Hospital School took steps to lessen the abruptness of moving to and from the Donovan Living Experience.

The John J. Foley Outpatient Center, which has become a focal point for change within the Medical Services Division, grew with the addition of an alumni clinic. Plans were begun in 1980 to expand all services and to increase use of the outpatient clinic through a campaign directed at

the community.

As part of the program to improve the self-image and self-confidence of the students, the Hospital School consolidated all camping programs into Camp ALO (Adaptive Living Outdoors). Demand for participation in the program was greater than the places available. With the cooperation of the Norwood Comprehensive Employment Training Act (CETA) program, the social service department of the School obtained 15 CETA positions at the School for patients. Many departments had volunteered to do onthe-job training with the young people.

Pondville Hospital — Pondville Hospital is a 104-bed institution, located in Walpole, that specializes in the treatment of cancer. Its multimodality treatment of the disease includes surgery, radiation, and chemotherapy.

The Diagnostic Radiology Department carried out three new

special procedures during the year-transhepatic biliary drainage by-pass, percutaneous nephrostomies, and percutaneous gastrostomy. Hospital staff maintained active participation in the clinical studies of the Eastern Cooperative Oncology (ECOG) and the National Surgical Adjuvant Breast and Bowel Project (NSABP). The ECOG activity of the Tufts Oncology Group involved 10 hospitals, including Pondville, the New England Medical Center, Lemuel Shattuck Hospital, the Lahey Clinic and six community hospitals. Participation in clinical trials afforded patients the latest form of treatment, including drugs that are not yet commercially available. Other research continued in the causes and prevention of cancer, and in the role played by immunological factors in the development and treatment of cancer.

During the year, the Department, with the approval of the Legislature, made important advances towards the sale of Pond-

ville Hospital. Despite its uncertain future, the hospital, which has experienced a steady decline in daily census, continued to provide excellent care and treatment to its patients.

• Rutland Heights Hospital — Located in the Town of Rutland, the Rutland Heights Hospital is a multipurpose facility that serves an adult population in the central Massachusetts region. During fiscal year 1980, the hospital directly operated 130 beds for Department of Public Health clients, and provided support services for an additional 80-bed psychiatric unit for the Department of Mental Health.

As part of its program of prevention, the hospital maintained a comprehensive health program for its employees and other groups. The program directed clients to the proper facilities and made available a directory of health-related information and services in the communities. The second aspect of the prevention program, the Adult Day Care Pro-



gram, served an adult population within a 10-mile radius of the hospital on an outpatient basis. The program provides an alternative, supportive setting for adults at risk of being institutionalized, as well as social and educational activities.

The rehabilitation program, which seeks to restore severely disabled persons to a higher level of functioning, provided an integrated system of medical, nursing, therapeutic, and support services through a team approach. The alcoholism treatment program, centered in a three-bed unit, offered rehabilitation to alcoholics who voluntarily requested treatment.

Most significant development in fiscal year 1980 at the Rutland Heights Hospital was the continued planning for the eventual move of the psychiatric unit. The unit will be transferred to the Worcester State Hospital as part of the Commonwealth's effort to

consolidate underutilized state facilities.

• Tewksbury Hospital— Tewksbury Hospital, which has a bed capacity of 820, is the largest chronic disease, rehabilitation hospital in the state. It also operates a 225-bed program for homeless men, who are chronic alcoholics. Of the 280-bed medical component, 120 were assigned to care of former patients at the Danvers State Hospital. These are

geriatric patients with both physi-

cal and psychiatric problems.

The major development at Tewksbury Hospital during fiscal year 1980 was the approval by the Public Health Council of the hospital's request to open 180 vacant beds. The beds will be used for patients from the community and from Danvers State Hospital and Metropolitan State Hospital. Use of the beds, which have been vacant since 1974, will raise the bed capacity to 1,000.

 Western Massachusetts Hospital-Located in Westfield in Hampden County, the Western Massachusetts Hospital offers long-term care of chronically ill adults, rehabilitation and alcoholism programs, and medical and surgical care of multiply handicapped children. The medical unit continued to provide care to patients with chronic medical conditions that require a higher level of care than what is available at a nursing home. Children admitted to the pediatric unit received either short-term care, extensive physical rehabilitation, or respite care. The alcoholism treatment program provided a 21-day multidisciplinary program for persons suffering from alcoholism or alcohol abuse.

The hospital's outpatient clinics offered a wide range of services to high-risk groups, underserved populations, medically

Table 2.
Public Health Hospitals
Annual Census Summary — July 1, 1979 - June 30, 1980.

Hospitals	Admissions	Discharges	Average Length of Stay	Average Daily Census	Patient Days	Outpatient Visits
Lakeville*	321	317	113.87	103.27	37,694	8,275
Lemuel Shattuck*						
Main	1,418	1,350	23.9 6	93.43	34,102	25,907
Geriatric	81	75	290.75	66.91	24,423	109
Mass. Hospital School						
Hospital	125	130	204.30	34.24**	12,499	1,850
Cottages				40.21**	14,676	<u>-</u>
Pondville	906	758	15.50	38.65	14,109	15,958
Rutland Heights					,	,
Main	361	335	117.48	115.55	42,177	1,517
Psychiatric	87	89	295.61	76.13	27,788	<u> </u>
Tewksbury					ĺ	
Main	254	65	1,141.73	788.27	287,718	_
Homeless Men	102	95	577.61	150.34	54,873	_
Western Mass.	545	510	50.97	76.39	27,882	12,405
TOTALS	4,200	3,724	_	_	577,941	66,021

^{*}The dialysis units at Lakeville and Shattuck Hospitals provided 6,044 and 8,224 treatments (including home dialysis) respectively.

^{**}Low census reflects policy of the Massachusetts Hospital School to allow patients to go home for holidays, weekends, and vacations.

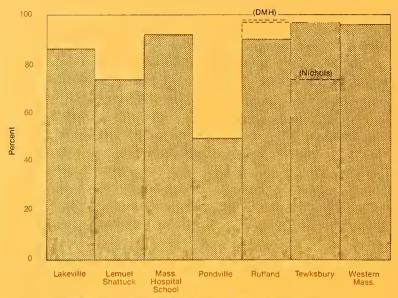


Figure 3. Percent of Occupancy in Department of Public Health Hospitals, July 1, 1979-June 30, 1980.

indigent persons, and clients of other state and local human service agencies. The adult day-care program, in operation since 1975, provided many activities to physically disabled adults to help avoid institutionalization.

Western Massachusetts Hospital also provided space and support services to a number of programs operated by other state agencies, by cities, towns or counties. The hospital has thus developed into a multiservice center.

The seven hospitals admitted 4,200 patients during fiscal year 1980, a decrease of 206 (4.6 percent) from 1979. The average length of stay varied from 15 days at Pondville to 1,141 days at Tewksbury. The number of outpatient visits — 66,021 — represented an increase of 8,634 over 1979, an indicator of the emphasis on more and improved ambulatory care programs (Table 2). Percent of occupancy in the seven hospitals is shown in Figure 3.

As part of the Department's total public health effort, the seven hospitals continued to expand training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury, and Western Masschusetts Hospitals graduated about 150 licensed practical nurses from their

accredited schools of practical nursing.

DIVISION OF ALCOHOLISM

The Division of Alcoholism strengthened activities for building its network of prevention resources, both regionally and statewide. During fiscal year 1980, the Division funded four additional regional primary prevention centers with funds appropriated by the Legislature, to bring to eight the number of cennow offering services throughout the Commonwealth. More programs and planning resources were developed to meet the needs of women, youth, and minorities.' The Division contracted with an advertising agency to develop television commercials about alcohol abuse among women. The campaign was designed to publicize both existing statewide services for women and recently funded programs for women with dependent children.

In the area of secondary prevention, the driver alcohol-education program offered a structured, group educational series for persons arrested for driving under the influence of alcohol. Over 17,000 clients were referred to

these programs in fiscal year 1980. The Division continued its commitment to the state's employee assistance program as a means of early identification of potential alcoholics. Over the past year, more than 150 state employees received clinical services. Legislative action made possible an upgrading of support for four-day treatment programs for women, which encompass both treatment and early identification. A 30 percent increase in basic funding allowed additional outreach activities and staff refinements.

The Division continued to fund seven programs targeted at the identification and treatment of youths with drinking problems. The programs provided education, intervention counseling, and advocacy. Almost 6,000 young people received alcohol education.

In addition to the regular programs directed specifically to the state's minorities, the Division organized the Hispanic Alcoholism Planning Project to develop data on the needs of the Hispanic community, and to prepare training and educational materials for use in minority programs. The Special Populations Resource Center, planned during the fiscal year, will begin functioning in fiscal year 1981.

The Division continued to support the statewide system of 20 detoxification facilities and initiated the development of a 21st center in Franklin County. The Division also maintained its support of 45 halfway houses, 30 outpatient programs, and a pilot, short-term, intensive rehabilitation program. Funding for the state-supported programs increased to approximately \$15,000,000.

STATE LABORATORY INSTITUTE

The high quality of services provided by the State Laboratory Institute has been built upon a long tradition of research and development, a tradition that continued strongly during the 1979-1980 year. Staff of the Institute contributed extensively to the development of new disease-control policies now emerging as a result of technical advances. Work with other scientists under the auspices of organizations such as the National Institutes of Health and the Center for Disease Control provided a valuable exchange of ideas. Activities of the State Laboratory Institute fall into the following categories:

 Research and development of new technology

 Performance of a variety of tests on more than one million specimens for clinical diagnostic purposes

 Production and distribution of serums and vaccines for use throughout the year

Diagnosis of rare or exotic disease

Establishment of new diagnostic tests.

BIOLOGIC LABORATORIES

The changing patterns of need and availability of vaccines and other biologics has stimulated a continuing reappraisal by the Biologic Laboratories of the most effective contribution the facility could make. Goals being pursued were: to ensure the availability in Massachusetts of vaccines of proven efficiency; to enhance

acceptance of such vaccines through improvements leading to decreased reactivity, increased potency, or both; and to provide unique biologic products for critical needs of special groups of patients whose numbers are insufficient to attract the interests of large commercial organizations.

During the year, major improvements in the blood fractionation facility permitted a great increase in the efficiency of extracting hepatitis-free blood substitutes and special immune globulins. A specific immune globulin, varicella-zoster immune globulin, for prevention of overwhelming chickenpox in children with leukemia, was nearing the final stages of federal licensure after extensive clinical trials.

DIAGNOSTIC LABORATORIES

Bacteriology Laboratory

The 185,380 specimens submitted to the Bacteriology Laboratory represented an increase of nearly 10 percent over fiscal year 1978, and an increase of 6.5 percent over 1979. Some of the increased productivity resulted from the transfer of throat culture tests to the Bacteriology Laboratory after the closing of the Department's Amherst Laboratory. Several new services, however. such as the "rapid" direct immunofluorescence for Legionnaire's disease, and testing for botulinal toxin in stools from infants with sudden death syndrome, increased productivity (Table 3).

The Throat Culture Program processed 111,035 specimens, an increase of 12 percent over the previous year. The streptoccocal laboratory at the Worcester Health Department, which was closed on June 30, 1980, for lack of economic feasibility, will be assumed by the Bacteriology Laboratory.

The Gonorrhea Control Program reported approximately the same volume of cultures as last year. The positivity rate was 5.0 percent, up 0.2 percent from the previous year. The Enteric Disease Program also reported a vol-

ume the same as for 1979. The number of specimens submitted to the Mycology Laboratory for fungal identification declined by 21.2 percent after the laboratory at the Boston City Hospital assumed responsibility for their own testing. Specimens for serological testing, however, increased by 13.1 percent when the Micology Laboratory increased its reference work for identifying unusual bacterial isolations.

Parasitology Laboratory

The Parasitology Laboratory expanded the availability of tests for the detection of parasitic diseases. More requests were received for the diagnosis of toxoplasmosis than for all the other combined - 1,785 parasitisms specimens. The laboratory has begun to computerize serologic, clinical, and epidemiological data on patients tested for toxoplasmosis. The data, it is hoped, will provide useful information on the significance of the disease as a cause of blindness, mental retardation, morbidity and mortality in the Commonwealth.

Laboratory personnel, in cooperation with the Division of Communicable and Venereal Diseases, participated in the clinical, epidemiological, and diagnostic work-up of a family outbreak of trichinosis in Springfield, and of another case related to pork from swine raised on a Massachusetts farm. Source of infection in the former case was pork sold in a local supermarket.

The laboratory also provided, as a major service, consultation to the general public, laboratories, health departments, physicians and hospitals on the diagnostic, therapeutic, epidemiologic, and public health aspects of parasitic, tropical, and zoonotic diseases.

Table 3.
Five-Year Summary of Number and Kinds of Specimens
Examined by the Bacteriology Laboratory.

Specimens	1976	1977	1978	1979	1980
Enteric Pathogens	10,357	10,178	10,025	10,270	10,006
Gonorrhea*	54,071	58,707	60,330	61,803	60,693
Mycology	421	425	508	950*	* 850 * *
Serology	89	90	112	230	257
Throat Cultures	106,194	97,899	95,214	97,682	111,035
Food	74	75	86	38	24
Miscellaneous	2,312	1,739	1,924	2,337	2,515
Totals	173,518	169,113	168,199	173,310	185,380

*Includes cultures and smears.

**Includes fungal serology.

Serology Laboratory

The Dr. William A. Hinton Serology Laboratory again participated successfully in the federal Syphilis Serology Proficiency Testing Program conducted by the Venereal Disease Program of the Center for Disease Control on the standard tests for syphilis. The laboratory also collaborated with the Laboratory Improvement Program in conducting the annual statewide syphilis serology proficiency testing of 280 local clinical laboratories to qualify them for state approval to perform premarital and prenatal syphilis serology testing, as required by law.

The primary potential vector of rabies for pet animals and humans in Massachusetts remains the insectivorous, colonial bat. Since 1961, when rabies was first found in local bats, the disease has been diagnosed in bats submitted to the laboratory each year. Of the 605 suspicious animals examined in the Rabies Program in fiscal year 1980, 132 were bats, seven of which were positive. The percentage positive frequency of rabies in such animals, which has ranged from 10.7 percent in 1976 to 4 percent in 1978, was 5.3 percent in 1980.

Although the disease had apparently remained confined among bats throughout the 18-year period from 1961 through 1979, the laboratory in February 1980 diagnosed the first rabies positive cat in Massachusetts

since 1942. Immediately following the diagnosis, all persons exposed to the cat received either pre or postexposure vaccine against rabies. Despite intensive testing, the laboratory found no further cases in ground animals in the state.

Virology Laboratory

The Virology Laboratory expanded primary and referred diagnostic services for viral, mycoplasmal, chlamydial, and rickettsial diseases. A total of 14,196 specimens, an increase of approximately 12 percent over the previous year, were received and processed. Over 46,644 examinations (an increase of approximately 13 percent over 1979) were carried out on these specimens for the diagnosis of many acute and chronic diseases.

Encephalitis virus monitoring was provided through a very active mosquito analysis program—44,358 mosquitoes were captured and combined into 2,583 pools for testing. Only 56 eastern equine encephalitis virus (EEE) isolations were detected, 31 (55 percent) of which were collected in Peterson Swamp in the Town of Halifax in southeastern Massachusetts.

Laboratory Improvement Program

An exceptionally strong regional program of training and consultation was made possible by two

new 18-month contracts from the Center for Disease Control, which became effective early in the fiscal year. The Regional Clinical Laboratory Continuing Education Program began providing training to persons working in laboratories in Maine, Massachusetts, New Hampshire, and Vermont. During the year, 19 programs, both workshops and self-study units, were presented.

In calendar year 1979, the Laboratory Improvement Program awarded certificates of approval for various bacteriological and serological tests to 281 clinical laboratories. Certificates were also awarded to 43 laboratories for environmental and sanitation procedures.

On January 1, 1980, the program stopped producing its own proficiency test specimens and encouraged laboratories to enroll in other available programs. The Laboratory Improvement Program, in cooperation with the Laboratory Regulation Program of the Division of Health Facility Regulation, began to develop new criteria for the evaluation of laboratories seeking approval for premarital and prenatal syphilis serology and for premarital rubella serology.

NEWBORN SCREENING

The third major division of the State Laboratory Institute, Newborn Screening, consolidated programs for detecting hypothyroidism, phenylketonuria (PKU), and other metabolic disorders.

Hypothyroidism Screening Program

The Hypothyroidism Screening Program screened 157,669 blood specimens for congenital hypothyroidism (cretinism) during fiscal year 1980. Of these specimens, 71,539 came from Massachusetts, and 86,130 from four other New England states (Table 4), Of the 9,686 infants with low thyroxine levels, 33 were identified as hypothyroid. Only three of these infants might have been diagnosed clinically; thus, without the screening program, the diagnosis would have been missed in the other 30 infants. All the hypothyroid infants were started on thyroid replacement therapy before three months of age, after which time damage to the central nervous system becomes irreversible.

The 33 infants have been entered into a federally funded follow-up study of the hypothyroid infants identified through screening. The study, initiated by endocrinologists from the participating New England states, has begun to evaluate the results of early treatment on physical and mental development. Parents living in the five New England states have already benefited from the study; their children have been receiving free psychometric evaluations. Physicians caring for these children have the opportunity to seek consultation from the members of the study without additional costs to the parents or to the physicians.

Metabolic Disorders Screening Program

Screening of newborn blood specimens for PKU continued to be the mainstay of the program as it has been since the program's inception in 1962. The program also tested for over 30 other inborn

Table 4.

Newborn Screening Laboratories
Hypothyroidism Screening Laboratory
July 1, 1979-June 30, 1980.

State	No. Screened	No. Low T4	No. Hypothyroid
Connecticut	44,451	2,601	8
Maine	16,936	1,150	3
Massachusetts	71,539	3,845	18
New Hampshire	12,421	1,007	4
Rhode Island	12,322	1,083	_
Totals	157,669	9,686	33

errors of metabolism and continued to test for PKU and three other metabolic disorders for the States of Maine and Rhode Island (Table 5). During the past fiscal year, six infants with PKU were identified and placed on a special diet within the first two weeks of life. The children were developing in a normal manner. It was anticipated that they will be spared the mental retardation that would otherwise have occurred, as has been true for the over 100 children with PKU detected by routine screening in Massachusetts since the inception of the program.

The screening program also detected three mothers with PKU. Their offspring were being evaluated to determine whether fetal damage occurred as a result of the maternal PKU. In addition, 24 babies with other metabolic dis-

orders, such as cystinuria, galactosemia, histidinemia, Hartnup disorder, hyperglycinemia, and methylmalonic acidemia were discovered. Where therapy is available, the newborns were placed on special diets.

Newborn screening programs have continued to receive emphasis because they are cost-effective and can be carried out reliably only by a large central facility with total compliance and good quality control. Because obtaining the specimens accounts for most of the program cost, the screening program has sought to develop additional tests for each specimen. By the end of the year, the Metabolic Disorders Screening Program was investigating the feasibility of testing the newborn blood specimen for congenital adrenal hyperplasia, a serious disease of the adrenal gland.

Table 5.

Newborn Screening Laboratories

Metabolic Disorders Laboratory July 1, 1979 - June 30, 1980.

		Percent of
A. Routine Specimens	Number	Live Births*
Umbilical Cord Blood	72,378	97
Newborn Blood (Massachusetts)	74,101	99
Newborn Blood (Maine)	17,362	
Newborn Blood (Rhode Island)	12,013	
Newborn Urine	57,138	76
	232,992	
B. Other Specimens**	3,390_	
Total Number of Specimens	236,382	
Total Number of Tests Performed		- 71 2 ,751

*Based on an estimated 70,000 live births in Massachusetts.

**Secondary specimens obtained for specific purposes such as confirming a disease in an infant (follow-up newborn blood or repeat urine specimen) or for testing immediate relatives of an infant with a known or suspected disease for the ascertainment of additional cases within a family.

HEALTH REGULATION

Through its program of standard setting, inspection, licensure, and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has the responsibility for preventing unnecessary expansion of health care facilities.

HEALTH FACILITY REGULATION

The Division of Health Facility Regulation is mandated by state and federal statutes to license and certify health care facilities and services in the Commonwealth. With the addition of the ambulance licensure program in fiscal year 1980, the Division licensed approximately 1,200 facilities, including hospitals, clinics, nursing homes, laboratories, and ambulance services. Approximately 2,000 facilities and services were certified for federal programs. The Division also reviewed, on behalf of the Department of Public Welfare, about 30,000 Medicaid clients for adequacy and quality of care, and for appropriate placement.

The Division reviewed and approved the design, planning, and construction of 386 health care facility projects involving new construction, renovations, alterations, and acquisition of new equipment to ensure the facilities' compliance with certain Life Safety Code and building requirements. Complaints concerning patient care, staffing, housekeeping and environment, and other aspects of delivery of health services affecting the safety and well-being of patients were investigated and resolved. Enforcement actions taken by the Division in fiscal year 1980 included nine license revocations, 20 decertifications, five emergency cases requiring court orders from the Office of the Attorney General, deletions of four laboratory specialties, and the issuance of



one correction order.

During the year, the Division established an Office of Policy Analysis and Evaluation to serve as liaison with health planning and other state agencies, and to staff all planning, program development, and analytical efforts of the Division. To provide ongoing support for its mandated responsibilities, the Division consolidated all survey activities under one director. The Office of Compliance, which became operative early in the fiscal year, coordinated enforcement actions for all programs and served as liaison between the Division and the Department's Legal Office, and with the Office of the Attorney General.

Work was completed on the survey-by-exception project based on the concept that nursing homes providing good quality care could be identified and should, therefore, not be subject to the full annual licensure-certification survey. Approval for the demonstration project was obtained from the United States Department of Health and Human

Services; the surveys were scheduled to begin in October 1980.

Rate incentive regulations allowing for reward of facilities for outstanding compliance were extended for another year at a greatly increased funding level. A Rate Incentive Task Force began meeting to develop a quality measurement system, for use in 1981 and later, and to evaluate the first year's experience with the regulations.

Regulations were developed to allow an increase in reimbursement for facilities caring for patients with severe disabilities. Promulgation of the regulations were expected in October 1980.

The Division developed an automated complaint reporting system for long-term care facilities to provide such information as facilities against which complaints are lodged, whether or not complaints are justified, and what areas of operations are involved. Operative since May 1980, the system has processed an average of 80 complaints a month.

An agreement between the Department of Public Health and the Joint Commission on Accreditation of Hospitals (JCAH) to offer "deemed" status by the Department to facilities accredited by the JCAH made a fundamental change in the approach to hospital survey and licensure. The collaborative effort will help to reduce excessive and costly regulations and the number of facilities requiring full survey by the Department.

Blood bank regulations were revised to provide for acceptance of recognized accreditation by a professional organization. Subsequently, an agreement was developed and implemented to accept the American Association of Blood Bank Accreditation. New regulations for the monitoring of hazardous infectious wastes from hospitals were also promulgated. The Legislature passed a bill to revise the definition of a clinic that clarified the types of facilities for which licensure is appropriate and identified facilities that would be exempt. By the end of the fiscal year, the Division was revising clinic regulations to conform with the mandate of the revised statute.

DETERMINATION OF NEED

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for analyzing the need for, and cost-effective allocation of, health care facilities within the state. The purpose of the legislation was to prevent unnecessary building of new facilities or expansion of existing facilities, to avoid wasteful duplication of services and facilities, and to control spiraling health costs.

The Determination of Need Program reviewed all applications for new construction or expansion of a health care facility, for capital expenditures over \$150,000 or for a major change in service (including the addition of beds). In fiscal year 1980, the program reviewed 148 applications with pro-

posed capital expenditures of approximately \$325 million. The Public Health Council determined a need for approximately \$137 million.

New procedures and increased productivity reduced the time needed to process applications to a point where approximately 70 percent of applications were presented to the Public Health Council in less than eight months (Fig. 4). In the last six months of the fiscal year, 70 percent of the applications were reviewed within one to eight months of filing. Great strides were also made in reducing by 96 percent the backlog of applications filed prior to July 1, 1978. At the end of the year, only six applications were on file.

Another major improvement in the DON Program was the signing into law of Chapter 541 of the Acts of 1980. This statute brought the Massachusetts DON Program into complete compliance with federal standards. A DON Task Force established by the Governor examined the program and recommended improvements. The major finding of the Task Force was that the DON Program is valuable and should be maintained. The program will implement other recommendations within the year.

EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS) continued to work with many organizations and agencies on a regional and statewide basis to improve the delivery of emergency medical care. OEMS, working with public officials, hospitals, physicians, and the Massachusetts Hospital Association, helped develop regional emergency medical services systems across the Commonwealth. Five of the Massachusetts regions now have functioning regional councils, a sixth in Region V was close to formation.

ŌEMS and three regions submitted joint applications to the United States Department of Health and Human Services, Division of Emergency Services, for the expansion and improvement of advanced life support services (ALS). The three regions, II, III, and VI, received grants totaling \$755,901. Region V received a \$30,000 planning and ALS feasibility grant. All grants will become effective on July 1, 1980.

During the past year, OEMS concentrated on improved care for groups of critically ill patients. The Statewide Trauma Committee, with the cooperation of the Massachusetts Hospital Associa-

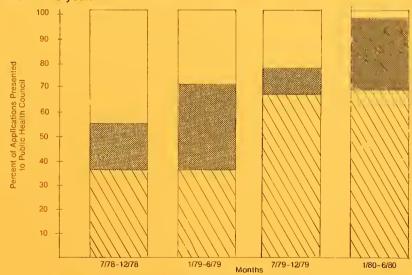


Figure 4. Application Turn-Around Time, DON Program, 1978-1980.

Key Backlog (1 year) 1–8 months

tion and other professional organizations, completed its two-year study of the problem. A final report of its recommendations were ready for submission to the Commissioner in July 1980. Based upon the recommendations of the report, Region II designated a trauma center in April 1980; Regions III, IV, and VI were expected to designate their centers in the first half of fiscal year 1981. In addition, the Statewide Spinal Cord Committee surveyed the care of spinal-cord injured patients and submitted its report to the Commissioner.

Programs to upgrade resources and to broaden local and state emergency medical services networks functioned throughout the year:

- OEMS provided administrative coordination and approval of all basic emergency medical technician (EMT) courses in the state. In the past year, 4,200 persons were tested and certified. A 25 percent attrition rate among basic EMTs and the expanding use of certified EMTs in health, sports, education and industrial programs required an expanded program.
- Training of emergency room nurses was maintained. The Critical Care Emergency Nurse Education Program certified 204 nurses during fiscal year 1980.
- Since January 1980, the emergency telephone number "911" has been used in 59 systems servicing 66 of the 351 cities or towns in the Commonwealth, an increase of 14 municipalities over 1979. The systems covered 2,450,149 persons, 42.3 percent of the total state population.



HEALTH PLANNING

Fiscal year 1980 marked the fourth year that the Department of Public Health functioned as the federally designated State Health Planning and Development Agency (SHPDA). The Office of State Health Planning (OSHP), the unit within the Department that carries out the SHPDA's responsibilities, prepared the second State Health Plan. The plan was approved by the 70-member State Health Coordinating Council on June 16, 1980, after six public hearings held in different parts of the state. The plan included new materials on cancer control and breast cancer, new financial standards for hospitals, analysis of health maintenance organizations (HMOs), and information on academic medical centers. Other accomplishments of OSHP during the fiscal year follow:

- Submitted to the United States Department of Health and Human Services "A Model for Assessing and Effecting Hospital Closure," an important analysis of the long-run incremental cost of hospital closure.
- Wrote a "Guide to Long-Term Care Alternatives," to be distributed to the elderly in the

state, which contains information on community services available as alternatives to nursing home care.

- Drafted, and supported passage of, the Determination of Need Compliance legislation. To sharpen the standards, measures and guidelines for the DON Program, OSHP created task forces on alcoholism, radiotherapy, cardiac surgery, pediatrics and acute psychiatry.
- Continued to offer technical and promotional assistance to consumers and potential providers of prepaid health care through the Health Maintenance (HMO) Project.
- Revised the Hospital Oneand Five-Year Plans, longrange planning documents required of all licensed hospitals.

HEALTH STATISTICS AND RESEARCH

The Division of Health Statistics and Research within the Office of State Health Planning is responsible for the collection and dissemination of data on vital events, licensed health professionals, and health facilities in the state. Designated the State Health Statistics Center by the

Governor, the Division had broader responsibility to provide data coordination among all agencies collecting health data, develop statistical standards, offer technical assistance to users of data, and to serve as a clearinghouse for public health research. During the past year, the Division recorded the following accomplishments:

 The Division was one of four State Health Statistics Centers nationwide to participate in a Cooperative Health Statistics System demonstration project. Under a grant from the National Center for Health Statistics, the Division improved its capabilities to disseminate and analyze data.

• The Registry of Vital Records and Statistics processed and analyzed data for approximately 200,000 births, deaths, marriages, and divorces. Personnel implemented the federally sponsored Automated Classification Medical Entities (ACME) system of death coding; all causes of death, rather than just the underlying cause, are now coded and computerized.

 The Health Resources Unit processed and analyzed data from over 100,000 health professionals and from approximately 2,000 health facilities, and aided health care facilities in preparing material for DON and appropriateness review.

• The Research Unit was expanded to provide more detailed statistical analysis of current health problems. Projects included standardized mortality ratios for every city and town in the Commonwealth and measures for neonatal mortality.

MANAGEMENT SERVICES

ADMINISTRATION

Management Services headed the Department's efforts to create revenue-producing operations wherever practical, and to promote enhanced services and economies in existing operations. The Department's external audit program was responsible for a marked improvement in vendor accountability of finances and programs, and resulted in a recapturing of several thousand dollars in overbillings.

The Evaluation Unit, formed in fiscal year 1979, provided information on the effect on clients of direct services purchased by the Department. The Evaluation Unit completed its first study, which measured outcomes of Family Health Services' Early Intervention Programs. Family Health Services used the findings to adjust its allocation of resources in the next fiscal year.

The Personnel Management Information System (PMIS), which will automate the current manual personnel-processing system, was nearing completion by the end of the fiscal year, and scheduled for implementation in fiscal year 1981.

The Office of Equal Opportunity wrote a comprehensive Affirmative Action Plan that was tested by the Civil Rights Section of the United States Department of Labor and by the state's Office of Affirmative Action. The Massachusetts plan was the only state

plan to have been formally tested and approved for compliance with existing civil rights regulations.

HEALTH EDUCATION

After four years as a unit within the Division of Preventive Medicine, the Division of Health Education was reestablished as an independent division. The Division was instrumental in the development and passage of legislation mandating health instruction in Massachusetts schools. Because of local autonomy, however, the legislation has not been implemented. The Division has participated in the Intradepartment School Committee and the School Health Task Force established by the Massachusetts Health Council. The Task Force, in conjunction with the Department and the Massachusetts Department of Education, sponsored seven regional workshops throughout the Commonwealth, attended by more than 800 school administrators and teachers.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1979 - JUNE 30, 1980

COMMISSIONER'S OFFICE MANAGEMENT SERVICES AND LEGAL OFFICE	STATE	FEDERAL	TOTAL
Administration	\$ 2,410,449	\$ 1,056,047	\$ 3,466,496
COMMUNICABLE AND VENEREAL DISEASES	1,944,905	1,208,573	3,225,478
COMMUNITY HEALTH SERVICES Family Health Services Preventive Medicine Tuberculosis Control Local Health Dental Health Sub Total	5,546,994	17,016,021	22,563,015
	430,028	348,204	778,232
	2,802,702	90,094	2,892,796
	407,554	1,425,856	1,833,410
	43,835	113,977	157,812
	9,231,113	18,994,152	28,225,265
ENVIRONMENTAL HEALTH Lead Paint Poisoning Radiation Control Consumer Products Sub Total	524,422	4,121	528,543
	99,659	54,976	154,635
	1,744,157	34,028	1,778,185
	2,368,328	93,125	2,461,363
HEALTH PLANNING Health Planning Health Statistics Sub Total	234,189	1,002,436	1,236,625
	596,220	733,147	1,329,367
	830,409	1,735,583	2,565,992
HEALTH REGULATION Determination of Need Emergency Medical Services Health Facility Regulation Sub Total	363,727	20,257	383,984
	310,193	—	310,193
	3,275,012	690,430	3,965,442
	3,948,932	710,687	4,659,619
HEALTH SERVICES Alcoholism Program State Laboratory Institute Hospitals Lakeville Hospital Lemuel Shattuck Hospital Mass. Hospital School Pondville Hospital	14,576,010	4,224,290	18,800,300
	3,893,871	472,002	4,365,873
	6,768,516	—	6,768,516
	14,750,325	—	14,750,325
	5,482,132	—	5,482,132
	6,091,421	—	6,091,421
Rutland Heights Hospital	5,398,325	15,487	5,413,812
Tewksbury Hospital	14,711,582	—	14,711,582
Western Mass. Hospital	4,734,339	—	4,734,339
Sub Total	76,406,521	4,711,779	81,118,300
TOTAL	\$97,140,567	\$28,581,946	\$125,722,513

EXECUTIVE OFFICE OF HUMAN SERVICES DEPARTMENT OF PUBLIC HEALTH OFFICE OF THE COMMISSIONER **PUBLIC HEALTH** COUNCIL Communicable/Venereal **Community Relations And Disease Control Public Information Affirmative Action ENVIRONMENTAL LEGAL** HEALTH COMMUNITY **HEALTH** HEALTH MANAGEMENT **PLANNING** HEALTH SERVICES REGULATION **SERVICES SERVICES** HEALTH **OFFICE** Alcohollsm Program Budget State Laboratory Institute Data Processing Health Planning Determination of Need Alcoholism Program **Lead Paint Polsoning** Family Health Services **Radiation Control** ealth Statistics Preventive Medicine **Drug Formulary** egistrar of Food and Drugs **Tuberculosis Control** Commission Hospitals Fiscal Safe Drinking Water Hazardous Waste Control Community Sanitation Vital Statistics **Emergency Medical** LakevIIIe Personnel Regional Health Lemuel Shattuck Equal Opportunity Mass. Hospital School Labor Relations Services Offices Dental Health HIII-Burton Sanitary Code Fluoridation Office of Regulation **Pondville** Evaluation Ambulance **Rutland Heights** Central Services Tewksbury Western Mass. Health Education Long Term Care

Hospitals Ambulatory Laboratory Home Health



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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1981

Alfred L. Frechette, M.D., M.P.H. Comissioner of Public Health Chairman, Public Health Council

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FROM THE OFFICE OF THE COMMISSIONER

Despite fiscal constraints and cutbacks in personnel, the Department of Public Health continued to provide the mandated programs and services required to meet the needs of the people of the Commonwealth in the fiscal year that ended on June 30, 1981. Early in the fiscal year, the Department, mindful of the importance of the environment on health, strengthened the Environmental Health Section by appointing a Director of the new Division of Environmental Health Assessment. The establishment of the Division made available, for the first time, a separate, identifiable program by which to assess the actual and potential health effects of environmental agents on the residents of the state.

Staff from the Division, from other programs of the Environmental Health Section, and from the Division of Health Statistics and Research conducted a study of cancer rates in the City of Woburn, in cooperation with the Massachusetts Department of Environmental Quality Engineering, and the Centers for Disease Control (CDC). Results of the study confirmed a high incidence of childhood leukemia and kidney cancer in the city, but failed to establish a definite link between hazardous waste sites in Woburn and the elevated cancer rates. The study also confirmed no significant excess of cancer deaths in the neighboring communities of Burlington, Lexington, Reading, Stoneham, Wilmington and Winchester.

The study was an outstanding example of cooperation between not only state agencies but a state and federal agency. As the Department continues to assess health effects of environmental pollutants, it anticipates more cooperative studies with staff of CDC.

The publication of Part I of Massachusetts Standardized Mortality Ratios, 1969-1978, an extension of an earlier publication, Mortality Profiles, 1969-1973, provided information on the health status of the Massachusetts population. The Department expressed the hope that the study would be useful to local boards of health, health care planners, and providers, researchers and the lay public.

After several previous unsuccessful attempts, the Legislature enacted into law a bill supported by the Department to establish a statewide Cancer Registry. The Registry, located within the Division of Health Research and Statistics, will become the repository of cancer data to be used for analysis of, and research on, prevalence and treatment.

As part of its commitment to maintain and improve the health and well-being of the people of the Commonwealth, the Department reaffirmed its support of programs of health promotion and disease prevention. The Statewide Childhood Injury Prevention Program (SCIPP) in the Division of Family Health Services was designed to combat the problem of accidental injury to children. The model program began operating in nine Massachusetts communities in early September 1980. During the summer and fall, the Department's Division of Dental Health sponsored two-day training courses on water fluoridation in conjunction with the Environmental Protection Agency and the Department of Environmental Quality Engineering. The course was part of the state's continuing efforts to ensure quality performance in fluoridating public water supplies. By the end of the fiscal year, three million residents, approximately 51 percent, were receiving the benefits of fluoridated water. The Department is aiming to have an additional quarter of a million persons added to that number each year until 1990 to achieve nearly universal fluoridation.

After extensive clinical trials, a specific immune globulin, varicellazoster immune globulin, received approval for federal licensure. Produced by the Department's Division of Biologic Laboratories, State Laboratory Institute, the vaccine can be used safely to prevent overwhelming chickenpox in children with leukemia.

During fiscal year 1981, the Department also continued its efforts to reduce unnecessary and duplicative regulations. The Division of Health Care Quality carried out, in two areas of the state, a survey-by-exception project based on the concept that nursing homes providing good quality care can be identified, and should not be subjected to the full annual licensurecertification survey. The time that would have been spent on those homes was redirected to consultation and monitoring at the 15 percent of the state's nursing homes whose care is below accepted quality. Fifty-six facilities were surveyed under the new abbreviated method. As a result of the demonstration project, the federal Department of Health and Human Services approved extension of the new survey methods to the entire state.

This 67th Annual Report* is a brief accounting of the activities of the Department of Public Health during a year in which the Department sought to maintain old services and to provide new ones in a period of change and challenge.

Alfred L. Frechette, M.D., M.P.H.

Commissioner

^{*}In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health.



COMMUNITY HEALTH SERVICES

The Community Health Services Section, under the direction of an Assistant Commissioner, consolidates the activities of the Divisions and units that provide direct services to the people of the Commonwealth: the Divisions of Family Health Services, Preventive Medicine, Tuberculosis Control, and Dental Health, and the Regional Health Offices, After its first full year of operation, the section has recorded greater sharing of related activities, an increased potential for community services, and better coordination of programs.

FAMILY HEALTH SERVICES

Improved health services to mothers and children in the Commonwealth remained an important part of the Department's total effort to upgrade community health. Two components of the Division of Family Health Services — Services to Handicapped Children and Maternal and Child Health — carry out the responsibilities mandated under Title V of the Social Security Act of 1936.

Services to Handicapped Children

The primary goal of the Services to Handicapped Children (SHC) is the identification of handicapped children at an early age so that they may have an opportunity to develop to their greatest potential. Three units of SHC worked to achieve that goal:

• The SHC Clinic Unit provided or contracted for services to approximately 9,000 children with many handicapping conditions: orthopedic, neurologic, cardiac, plastic, oro-facial anomalies, myelodysplasia, hemophilia, cystic fibrosis, and inborn errors of metabolism. No new clinics were opened during the year. Initial plans were underway, however, for a new cystic fibrosis clinic at the University of Massachusetts Medical Center in Worcester to provide services for patients from the central Massachusetts area who have been receiving care in Boston.

 The Community Services Unit provided a range of specialized services to multiply handicapped children to allow them to function as independently as possible and to remain in the community with their families. The Division purchased services — educational and therapeutic, home care, respite and residential care, and training — from communities to aid families. An added award of \$32,000 from the Massachusetts Development Disabilities Council allowed 340 handicapped children (110 more than in fiscal year 1980) to attend summer camp programs.

 The SHC Genetics Unit was established in October 1980 to begin a genetics-testing and counseling program in the Commonwealth. A three-year grant awarded to the Division in February 1981 by the federal Bureau of Community Health Services, under terms of the National Genetic Diseases Act, provided funds for the program, which includes an Advisory Committee for Genetic Services comprised of both consumers and professionals; staff of the Genetics Unit to coordinate educational, administrative, and research activities; and delivery of statewide services through the regional SHC clinics and a coordinated network of comprehensive genetics clinics at major medical centers. A statewide toll-free number was made available to encourage access to genetic information.

Maternal and Child Health

Four major units of the Division's Maternal and Child Health Services worked to provide mothers and children in underserved neighborhoods with a wide range of preventive health services.



- The Primary Care Unit began a major reevaluation of the primary care programs established under Title V. No new programs were established. The 27 functioning programs, including the 23 comprehensive Maternal and Infant Care (MIC) and Children and Youth (C&Y) projects, reached an estimated 20,000 women and children at a total cost of \$2.9 million.
- Closely related to the MIC and C&Y projects, the Women, Infants and Children's Supplemental Food Program (WIC), working through 35 local agencies, provided services to 36,000 clients, of whom 25 percent were women, 25 percent infants, and 50 percent children under the age of five. The report of the Massachusetts WIC Evaluation Project dramatically illustrated the positive effect of the WIC Program on the health status of mothers and children in the Commonwealth. Major findings indicated: the WIC Program was reaching high-risk populations, especially teenagers; WIC was correlated with increased birth weight and increased prenatal care. Nutritional counseling and health education helped high-risk families improve their daily diets, and encouraged mothers to breast feed their infants.
- The Services to School-Age Children/Adolescent Unit worked to establish and promote standards for health examinations and assessments of schools throughout the Commonwealth, and to promote optimal health through screening and health education. Three renewed contracts totaling \$144,386 were awarded to promote model approaches; 39 school districts, serving about 20 percent of the total public school enrollment, on waiver of mandated school health procedures, received technical assistance and consultation to develop more flexible, innovative school health programs.

Over 1,000 school personnel received training or refresher courses in conducting vision and hearing testing in the schools. Unit staff

repaired without charge 503 pieces of equipment used in these testing programs. In accordance with state requirements, financial eligibility guidelines were established, for the first time, in fiscal year 1981 for the Division's Hearing Aid Program. As a result, only 402 hearing aids were purchased for 292 children as compared to approximately 1,000 aids for 700 children in the previous fiscal year. To effect a smooth change from a voluntary program of postural screening for scoliosis to a mandatory one for all school children in grades five through nine, physical therapists from the central and regional offices conducted inservice education for 123 school districts.

Adolescent health and family planning comprised a strong subsection of the Services for School Age Children/Adolescent Unit. Ten renewed contracts totaling \$415,000 provided comprehensive care to adolescents of both sexes, and to adolescents at risk for substance abuse, venereal disease, pregnancy, and early parenthood. The programs registered over 30,000 visits by adolescents. Approximately 500 pregnant or parenting adolescents received intensive services either through special clinical programs or in the schools. Educational sessions reached over 18,000 persons — teens, parents, and professionals.

 The Statewide Childhood Injury Prevention Program (SCIPP) was developed by the Department in 1979 with funds from the federal Office of Maternal and Child Health to study how to establish and implement childhood injuryprevention programs based in the community. With the cooperation of both public and private agencies, SCIPP organized projects targeted toward specific injury risks in young children in 14 Massachusetts communities. Three intervention and three matched control sites were chosen.

Since October 1980, five coordinated injury prevention projects

in half of the communities were underway as part of a two-year intervention trial that concentrated on burns, poisonings, household injury hazards, and child auto injuries. Data on all types of injuries have been collected from hospitals and pediatricians that serve the intervention and control communities. In the second year of the project, approximately 10,000 persons participated in one of the five SCIPP coordinated health education projects.

PREVENTIVE MEDICINE

The Division of Preventive Medicine was created in 1977 to improve the health status of the people of the Commonwealth through a reduction in risk factors such as cigarette smoking, poor nutrition, physical inactivity and unsafe environments.

Program Administration

A strong component of all Division-supported services and activities is evaluation of process and research to determine effectiveness. In fiscal year 1981, the Division streamlined the requirements for data collection for contracting agencies and improved the efficiency for preparing reports.

The Division completed two major research projects during the fiscal year. The Massachusetts Health Interview Survey, conducted in cooperation with Clark University's Public Affairs Research Center, collected detailed information on health status, health behavior and awareness from a random sample of 1,500 Massachusetts residents. Designed to establish baseline data against which to assess the effect of programs and services, the survey has begun to provide much needed information on health practices and issues facing the state's population.

The second study was a public opinion poll on the regulation and restriction of public smoking, conducted with the assistance of grad-

uate and undergraduate students from Boston-area colleges and universities. Over 3,000 interviews were carried out. The results indicated overwhelming public support for restrictions on smoking in many public places.

Preventive Health Services

The Division supported several programs that seek to identify, serve, and follow-up specific population and occupational groups for whom the risks of chronic disease and disability are high. Activities included outreach and identification of such individuals, screening and assessment of health needs, referral to appropriate resources, and client monitoring and support services to ensure adherence to prescribed treatment. Three specific programs were operating in 1981:

• The Public Employee Health Project provided health services on a demonstration basis to two groups of public employees — firefighters in Fall River, and employees of the Department of Public Health's central offices. The former, a 10-month fitness program, was a collaborative effort of the Division and the Bridgewater State College, Department of Health, Physical Education, and Recreation.

• Comprehensive Community Hypertension Control Programs were functioning in 12 communities lacking adequate cardiovascular health care and with populations at high risk for high blood pressure. Programs provided screening, follow-up, monitoring, and health education services at worksites, community health centers, local health departments and other locations. In fiscal year 1981, an estimated 16,000 persons were screened and, when appropriate, referred for additional clinical care.

 Women's Health Initiatives, formulated during the preceding fiscal year, were put into operation in 1981. Women in Step with Health, based at Clinton Hospital in northern Worcester County, established preventive health services for approximately 600 women living in the six-town area bordering on the hospital. The projects have begun to compute results of screening and referral services to establish baseline data on the health status of women not normally included in such programs.

Health Promotion Services

The Division's programs to prevent cigarette smoking and alcohol abuse were targeted primarily at adolescents. School-based smoking prevention programs, carried out by local school administrators, were established in 11 school districts. Over 3,000 students received health education, as well as training in peer leadership development, communication, and decision-making skills. The Division developed a program to provide teachers with the skills required for the development and design of health education programs, as well as practical training in the use of curricula focusing on smoking and alcohol.

Public Health Education and Information

The Division used the media and other informational sources to pre-

sent material on the reduction of risks associated with poor nutrition, cigarette smoking, physical inactivity, and unsafe environments. Several successful projects were developed and implemented. "Second-Hand Smoke" was the theme of a cooperative project of four New England State Health Departments — Massachusetts, Connecticut, Rhode Island and New Hampshire — that reached hundreds of thousands of residents of the four states.

The Division also participated in a national effort to increase public awareness of the importance of controlling high blood pressure by distributing special materials for the state's minority communities. During May 1981, High Blood Pressure Awareness Month, the Division sponsored a special informational program at the State House that included the taking of blood pressure readings of members of the Legislature.

The Massachusetts Nutrition Resource Center (MNRC), established in 1979, provided educational and training services to providers and consumers throughout the state. During the year, MNRC registered a 31 percent increase in pro-



vider/consumer contacts through the Nutrition Hotline, and a 22 percent increase in contacts through mail inquiries. In addition, MNRC worked with the Division to develop special educational and training projects for adolescent pregnancy, nutritional needs of the elderly, and food additives.

The Child Passenger Safety Resource Center began full-scale operation in fiscal year 1981, and focused on infants and preschool children. The Center provided training and educational services to 1,000 health care professionals and to the public on the proper use of child passenger restraints.



TUBERCULOSIS CONTROL

The Division of Tuberculosis Control has major responsibility for the surveillance of tuberculosis in the Commonwealth, as well as for the development of programs to control and eradicate the disease. To this end, the Division promotes many activities, either directly, by contract, or in collaboration with local boards of health, hospitals, and physicians. During the fiscal year, the Division continued to provide the following services:

- A network of inpatient and ambulatory programs in community hospitals, to make tuberculosis diagnostic and treatment services accessible and available to residents of every city and town in Massachusetts.
- A central bacteriological laboratory to provide statewide tuberculosis diagnostic and treatment-monitoring services to physicians.
- Contractual purchases and distribution of tuberculosis drugs, for treatment and preventive therapy, through tuberculosis clinics.

 Maintenance of a statewide tuberculosis case register for surveillance of the disease, with a reciprocal exchange of information with other states and the federal government.

Despite the availability of therapeutic drugs, tuberculosis has not been eradicated anywhere in the United States; some states have recently experienced an increase in the number of cases. In calendar year 1980, the number of newly diagnosed cases in Massachusetts, however, declined by 5.04 percent - 452 cases as compared to 476 cases in 1979. The 1980 case rate also showed a decline from 8.2 percent per 100,000 population to 7.8, a rate below that of the nation as a whole (12.3 per 100,000 in 1980 as compared to 12.6 in 1979). Both the case rate and the number of newly reported cases of tuberculosis in the state have shown a steady, gradual decrease since the early 1950's. This trend could change, however, with the immigration of more Indochincse refugees into Massachusetts. The Commonwealth now ranks tenth in the nation in the number of Indochinese immigrants. who have a much higher rate of infection with the disease than the state's resident population.

The Division of Tuberculosis Control has taken a number of steps to reduce its medical care costs without adversely affecting quality of care. Some of the major cost-effective steps have been:

- A substitution of ambulatory care for inpatient care throughout all or most of the treatment period, with a resultant precipitous decline in patient days from 265,000 in calendar year 1964 to 6,164 in calendar year 1980.
- Medical audits of inpatient care, which have helped shorten the average length of hospital stay from 157.5 days in fiscal year 1965 to 46.3 days in fiscal year 1981.
- The development of acute-care contracts with 44 community hospitals to provide short-term inpatient care.

The Division has thus been able to maintain an effective program and, at the same time, reduce its budget over the past two decades. In 1964, the budget of the Division of Tuberculosis Control amounted to \$5.6 million and represented 21 percent of the Department of Public Health's total budget. In fiscal year 1981, the Division's budget, despite inflation, amounted to \$3.0 million

and represented less than 3 percent of the Department's total budget.

New activities of the Division of Tuberculosis Control in 1981 were as follows:

- The Division submitted legislation, enacted into law as Chapter 71, Section 55B, Massachusetts General Laws, under which teachers and other school personnel will no longer be screened for tuberculosis everythree years. The new law is expected to save the Commonwealth and cities and towns \$280,000 in reduced nursing, clerical, record-keeping time, as well as reduced X-ray costs and tuberculosis-testing supplies.
- In cooperation with representatives of the American Lung Association, the Division published "Role of the Voluntary Association, Volume 5 of the State Plan for the Control and Eradication of Tuberculosis."
- A tuberculosis clinic was opened at the University of Massachusetts Medical Center, under contract with the Division, to provide ambulatory services to the residents of central Worcester County.
- The Division participated in a study of a mycobacterium closely related to *Mycobacterium tuberculosis*. The results of the investigation, "A Demographic and Environmental Study of Infection Due to *Mycobacterium Intracellulare Avium* in Massachusetts, 1972-1979," showed a steady increase in cases.

DENTAL HEALTH

The Division of Dental Health, in its second year of reactivation, grew and expanded its activities in the prevention and control of oral diseases in Massachusetts. Work of the Division encompassed:

 Prevention of Oral Diseases — The Division assumed responsibility for administering the \$320,000 federal Fluoridation Grant, a sum twice that of the previous year. Monies were used to purchase fluoridation equipment and chemicals for six Massachusetts communities with a population of 263,000, and replacement equipment for four communities with a population of 132,021. The grant allowed the Department to establish a fluoridation monitoring and surveillance program for 89 cities and towns that serve 3,000,000 residents. The Division also carried out a statewide public awareness program on the benefits of fluoridation. A poster contest on the theme "Fluoridation Makes Massachusetts Smile" involved over 80 school systems that submitted posters from 1,300 children. During the year, seven local boards of health ordered fluoridation. Three orders were challenged by petition, and three referenda were held.

The Division was given responsibility for school-based fluoride mouth-rinse programs in 10 communities in fiscal year 1982. These programs were funded in 1981 by the Division of Preventive Medicine.

The Division provided technical assistance to dental personnel in 89 cities and towns that offered preventive services or treatment to over half the school-age children in the state. In addition, the Division conducted workshops on the prevention of dental disease; a workshop on implementing school-based fluoride programs was attended by 70 publicly employed dental hygienists.

 Dental Care — Dental care for the poor and disadvantaged has been provided by many separate state and federal programs. The Division of Dental Health conducted its program at four hospitals. It also worked with the Dental Medicaid Program to establish a system of review of certain dental services to ensure their appropriateness for Medicaid recipients, and with Medicaid's Project Good Health Program to improve dental use among the enrolled children. The Division cooperated with the Massachusetts Rate Setting Commission to establish a revised rate structure for dental services.



To coordinate and improve referral activities among different agencies that provide dental care to the developmentally disabled and handicapped, the Division helped convene a committee of representatives of the Tufts Dental Facility for the Mentally Retarded, the National Foundation for Dentistry for the Handicapped, the Oro-Facial Program of the Department's Services to Handicapped Children, the Dental Clinic of the Shriver Center, and the Massachusetts Dental Society.

As the dental needs of the elderly in nursing homes have increased, the Division and the Massachusetts Dental Society established a special Dental Nursing Home Committee. The Division and the Dental Society worked to establish guidelines for the care and treatment of nursing home patients.

• Dental Education and Training — During the fiscal year, the Division offered training in dental public health to six student interns from dental schools and public health programs.

• Research in Dental Public Health — The Department contracted with the Forsyth Dental Research Center for a survey of the oral health of Massachusetts children. The last survey had been conducted in 1951. The Boston section of the updated survey was completed in 1981. Findings showed a 40 percent decrease in the prevalence of tooth decay among these school children as compared to the statewide results in 1951 (Fig. 1), a high level of treatment, and a negligible ratio of missing teeth.

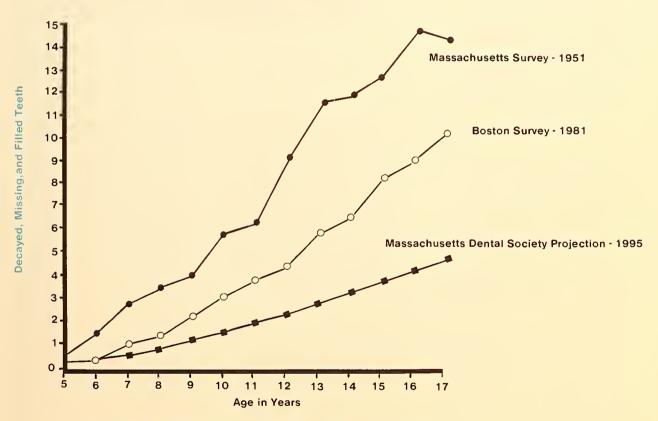


Figure 1. Decayed, Missing, and Filled Teeth by Age: Comparison of Boston Survey to Massachusetts Survey of 1951-2.

REGIONAL HEALTH OFFICES

The scope of activities of the Department is reflected in the local health services provided by the four Regional Health Offices in the state. These offices coordinate the Department's general field activities and act as intermediaries between central service programs, local health agencies, and citizen groups. Despite a shortage of funds and personnel, regional staff were able to carry out their multifaceted activities and responsibilities. These are the same for all the Regional Health Offices and can be summarized as follows:

- Technical assistance for sanitary programs and consultations on nursing, social work, and nutritional programs.
- Regulatory application and regulations of the State Sanitary Code and Food and Drug laws; inspection of prisons and certification of migrant labor camps.
- Direct patient services the provision of either direct services or contracts with other medical agencies. These activities include the programs of the Services to Handicapped Children, rehabilitation programs, family planning, and other programs of the Divisions of Family Health Services, Preventive Medicine and Dental Health.
- Inservice educational programs for local nurses, sanitarians, nutritionists, physical therapists, social workers, and members of local boards of health.

Some examples from each region indicate the diverse activities of all the Regional Health Offices:

 Central Region — Assistance was provided to local boards of health in the investigation of two major food-borne illnesses involving 114 positive cases, an outbreak of Legionnaire's



Photo: Transcript, North Adams

Disease, measles in a private school, and meningitis among children in a family day-care center. Sixteen communities, an increase of six over the previous fiscal year, participated in the Fluoride Mouth-Rinse Program, which reached approximately 9,000 school children, an increase of nearly 6,000 over the previous year.

- Northeastern Region The health education coordinator prepared and distributed a questionnaire on hospitalbased child auto restraint programs and arranged inservice training for nurses from maternity units. Two physical therapists did screening for scoliosis at sites of the Massachusetts Migrant Labor Program. Positive cases were enrolled in the regular SHC clinics. Nurses in the cardiac, cerebral palsy, myelodysplasia, and neurology clinics worked with other clinic nurses in the state to develop teaching materials for use with parents.
- Southeastern Region The annual up-dating of information on local boards of health continued with their coopera-

tion. The yearly "Regional Profile" was compiled and sent to all cities and towns in the region with the mailing of the new questionnaires. Social workers acted on behalf of 110 children under provisions of Chapter 766 by participating in core evaluations, serving as advocates for appropriate programs and the mainstreaming of handicapped children.

• Western Region — The program development specialist continued to represent the Department on the Region's Interdepartmental Team, which meets under the auspices of the Office for Children. The program development specialist and the public health nursing advisor represented the Department on the Department of Education's Regional Review Boards for the Springfield and Pittsfield areas. Several staff members represented the Department in planning with the Franklin/Hampshire Area Service Planning Team, Western Massachusetts Health Planning Council, and the Task Force for Western Massachusetts Hospital.

COMMUNICABLE/ VENEREAL DISEASE CONTROL

The Division of Communicable and Venereal Diseases carries out health protection activities that are the direct responsibility of state government. These encompass health surveillance and disease control to guard the health of the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and the assessment of threats to the population.

COMMUNICABLE DISEASE CONTROL

The statewide immunization programs of the Department, which expanded as new vaccines became available, continued to record progress in controlling measles, mumps, and rubella:

- Measles down from 19,512 cases in 1965 to 59 cases in 1980, a decrease of over 99 percent.
- Mumps down from 9,024 cases in 1968 to 130 cases in 1980, a decrease of 99 percent.
- Rubella down from 1,461 cases in 1969 to 76 cases in 1980, a decrease of 95 percent.

These programs not only prevented illness and death but saved the Commonwealth approximately \$16,000,000 in actual costs for medical care and institutionalization of patients.

Massachusetts, which has been on a maintenance immunization program against polio since polio vaccine became available, has not had a single reported case of polio since 1968. A total of 442,946 doses of trivalent Sabin oral polio vaccine were administered by local boards of health, private physicians, clinics and hospitals. The annual immunization survey of children (67,665) entering kindergarten showed more than 98 percent in 1980 had already received three or more doses of polio vaccine. The percentages of these children immunized against polio and the six other immunizable diseases showed impressive increases over 1975 (Table 1).

During the 1980-1981 school year, the Division of Communicable and Venereal Diseases also surveyed more than 100,000

Table 1.

Percentage of Immunized Children Entering Kindergarten
1973 - 1981.

		<u>1973-74</u>	<u>1974-75</u>	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	Percent Increase Over 1973-74
Diphtheria Tetanus Whooping Cough	DTP	88.6	93.51	95.04	96.21	95.82	96.99	97.57	98.10	10.72
Polio Measles Mumps Rubella		86.2 90.3 59.3 62.0	92.04 93.53 69.19 70.41	94.10 94.60 78.00 78.51	95.84 96.21 84.56 84.35	94.25 98.32 89.83 90.04	97.50 98.60 92.79 93.32	97.95 98.86 98.69 98.67	98.13 99.09 99.06 99.06	13.84 9.73 67.05 59.77

Table 2.
Percentage of Immunized Children in Day Care Centers
1975 - 1981.

<u>1975-76</u>	<u>1976-77</u> *	<u>1977-78</u>	1978-79	<u>1979-80</u>	<u>1980-81</u>	Percent Increase Over 1975-76
86.73	_	90.99	94.23	95.60	95.94	10.62
85.71		89.83	94.91	96.13	96.70	12.82
89.31	_	93.22	95.83	96.79	97.54	9.22
77.27		85.93	92.78	96.28	97.29	25.91
76.00	_	85.36	92.46	96.27	97.31	28.04
	86.73 85.71 89.31 77.27	86.73 — 85.71 — 89.31 — 77.27 —	86.73 — 90.99 85.71 — 89.83 89.31 — 93.22 77.27 — 85.93	86.73 — 90.99 94.23 85.71 — 89.83 94.91 89.31 — 93.22 95.83 77.27 — 85.93 92.78	86.73 — 90.99 94.23 95.60 85.71 — 89.83 94.91 96.13 89.31 — 93.22 95.83 96.79 77.27 — 85.93 92.78 96.28	86.73 — 90.99 94.23 95.60 95.94 85.71 — 89.83 94.91 96.13 96.70 89.31 — 93.22 95.83 96.79 97.54 77.27 — 85.93 92.78 96.28 97.29

^{*}No survey had been conducted in 1976-77.

school health records of new children entering grades one to 12 in both public and private schools. Immunization levels for these children were as follows: DTP, 95 percent; polio, 95 percent; measles, 97 percent; mumps, 97 percent; and rubella, 92 percent. The Division continued its survey of children (60,771) in day care centers and found substantial increases over the previous years (Table 2).

Recent improvement in the rubella immunization level of children in Massachusetts has resulted in rubella becoming a disease of adults. Of the cases reported in 1974, 20 percent were of adults as compared to 32 percent in 1980. This trend will probably continue since more than 91 percent of children under 18 years of age are protected with the vaccine. The Division has, therefore, continued with the rubella program for adults, started in 1979 and targeted at four main groups: students in institutions of higher learning, persons 30 years of age and younger who provide patient care in hospitals and other health facilities, students and staff in schools of nursing, and patients in obstetricalgynecological and family planning clinics.

Carry-over funds from the United States Public Health Service were used to carry out the influenza immunization program for high-risk persons. During the flu season, 175,462 persons were immunized, an increase of 4.7 percent over the previous year's program, and a substantial increase of 18.5 percent over the 1978-1979 program. The success of the program indicated that the credibility lost as a result of the 1976-1977 Swine Flu Program has, in large measure, been overcome.

The results of the Commonwealth's public pneumonia immunization program for the elderly, carried out in February 1978, indicated that the vaccine was safe,

cost-effective, and reduced mortality by 10 percent among the elderly who had contracted pneumonia. Since the initial field testing of the pneumococcal pneumonia vaccine, approximately 500,000 high-risk persons have received pneumonia immunization in the state. Nevertheless, pneumonia morbidity and mortality among high-risk Massachusetts residents continues to be a growing concern. The Division has, therefore, again recommended simultaneous administration of influenza and pneumonia vaccines in different sites.

The reported incidence of babesiosis, a malaria-like illness for which no effective chemotherapy is now available, has been increasing. In Massachusetts, a focus of the disease exists on the islands of Nantucket and Martha's Vineyard. In fiscal year 1981, eight identifiable cases were reported — six on Nantucket, one on Martha's Vineyard. and one, a Dalton women, aged 79 years. The latter patient had acquired the disease via a transfusion. Neither she nor the male blood donor had visited the Islands, although the donor had been on National Guard duty at Falmouth about six weeks before the donation.

VENEREAL DISEASE CONTROL

In accordance with national standards, the Division of Communicable and Venereal Diseases concerns itself with the 16 sexually transmissible diseases. Of these, seven — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, nongonoccocal urethritis and scabies remained epidemic in Massachusetts and in the nation. Massachusetts had about one and one-half cases of male gonorrhea to once case of nongonococcal urethritis, which may soon become the number one venereal disease in the United States, Scabies, however, was on the downward curve of the epidemic cycle. Because of the increase in the cases of nongonococcal urethritis and of genital herpes (also important for its oncogenic potential), the Division has planned to include these two diseases in the list of reportable diseases as soon as staff are available. Herpes type 2, for which there is now no specific treatment, made up 10 percent of the Division's clinic load.

For the first time since 1973, reported cases of gonorrhea and all types of syphilis showed an increase (Figs. 2 and 3). The 10,795 cases of gonorrhea reported in calendar year 1980 represented an increase of 9.2 percent over 1979, but constituted a 25.6 percent increase over the 8,026 cases reported a decade earlier. Gonorrhea continued to be the number one communicable disease in the state (Fig. 4).

For calendar year 1980, the reported number of patients with syphilis was 904, an increase of 9.3 percent over the 827 cases in the previous year. An important factor in the Division's efforts to control the spread of the disease was the syphilis interview-contact-tracing procedure, used by the Division's staff in the 21 cooperating state venereal disease clinics with 97 per-

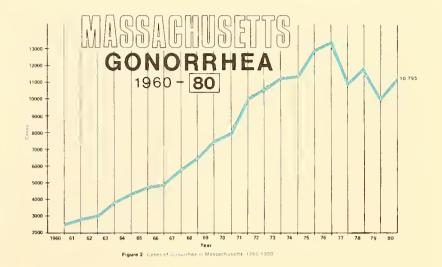
cent of the 557 early syphilis cases reported to the Department of Public Health.

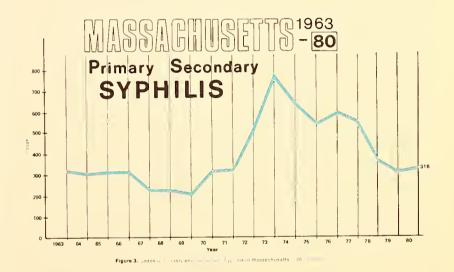
The Department's program for the screening of asymptomatic women for gonorrhea control continued with the renewal of a federal grant for \$488,061. During the calendar year 1980, the program examined 137,633 women by culture at approximately 100 participating facilities. Of the women examined, 4,954, or 3.6 percent, approximately the same percentage as in the previous year, were found to have the disease.

The grant also allowed the Division to continue its program for the diagnosis, treatment, and epidemiology of gonococcal pelvic inflammatory disease (PID), which have become important aspects of gonorrhea control. Protocols with standards for the diagnosis of gonococcal PID, which had been established by the Division, continued in over 30 hospitals located in areas of high incidence. Measures for ensuring the rapid epidemiologic follow-up of contacts, many of whom are asymptomatic men, were maintained. During calendar year 1980, 393 cases of gonococcal PID, approximately the same number as in the previous year, were reported.

The 21 cooperating state venereal disease clinics in the outpatient departments of general hospitals had 47,208 patient visits for examination and treatment during the fiscal year. The cost, which included diagnosis, laboratory work, treatment, and epidemiologic investigation, was approximately \$23.91 per patient visit.

The Division provided clinical and epidemiological training to 225 medical students from the Boston University and Tufts University Schools of Medicine. Physicians and nurses also received instruction in venereal disease control.





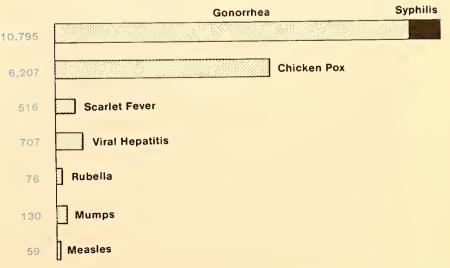


Figure 4. Communicable Diseases in Massachusetts, 1980.



ENVIRONMENTAL HEALTH

The Environmental Health Section, which completed its second year of operation on June 30, 1981, included the Divisions of Radiation Control, Food and Drugs, Community Sanitation, and the Lead Paint Poisoning Prevention Program. In response to a growing concern among health professionals and the public about the possible toxic effects of such environmental hazards as organic chemicals in drinking water, Gonyaulax tamarensis ("Red Tide''), polychlorinated biphenyls (PCBs) and methylmercury in shellfish, elevated levels of oxides of nitrogen from energy plants, as well as other known and potential hazards, the Department established within the Environmental Health Section a Division of Environmental Health Assessment.

ENVIRONMENTAL HEALTH ASSESSMENT

The Division of Environmental Health Assessment, which includes experts in epidemiology, toxicology, environmental hygiene, and health standards and criteria, was set up to respond immediately to, and evaluate, health threats posed by environmental hazards. The Division has worked closely with the Department of Environmental Quality Engineering (DEQE), the Division of Food and Drugs, and other state and federal agencies to monitor environmental hazards and their effect upon the health of the public.

In its first few months of operation, the Division was able to provide consultation to local boards of health and to other state agencies. It worked in collaboration with other divisions of the Department of Public Health, as well as with the Harvard School of Public Health, and the University of Massachusetts Medical School on research and health projects. In cooperation with the Centers for Disease Control, the Environmental Protection Agency, and the National Institute of Occupational Safety and Health, the Division investigated sites of potential health hazards.

The Division was called upon to assess the health effects of identified hazards, to review environmental health standards, and to make recommendations in the following areas:

- PCBs The presence of polychlorinated biphenyls in New Bedford Harbor and the Hoosic and Housatonic Rivers in the Pittsfield region required closing of the inner New Bedford Harbor, and the institution of anti-pollution measures by the large General Electric plant in the western part of the state.
- Contamination of Town Wells

 Traces of organic and inorganic chemicals in town wells became a serious problem in Massachusetts. By the end of the fiscal year, 22 town water supplies were deemed unuseable; 26 additional were categorized as at risk and were being monitored frequently. Although the Department of Environmental Quality Engineering is responsible for the monitoring of the state's water supplies, both DEQE and the public have called upon the Depart-

ment of Public Health for an opinion on the possible hazards to the health of the residents of the towns.

- Industrial Waste Contamination of the environment by industrial waste has emerged as a major public health problem. During the fiscal year, the Department evaluated the potential health effects of such wastes in Lowell, New Bedford, and Woburn. With the cooperation of the Centers for Disease Control and the National Institute of Occupational Safety and Health. the Department completed an epidemiological case-control study of victims of childhood leukemia and of victims of cancer of the kidney in Woburn, Less extensive but similar studies have been completed in Quincy, where concern had been expressed over exposure to asbestos, and in Canton, were PCBs had been found.
- Recombinant DNA The Division of Environmental Health Assessment coordinated the Department's evaluation of the potential public health problems associated with the new technology of recombinant DNA in industry and research institutions. The Division also helped draft enabling legislation to regulate this important technology.

RADIATION CONTROL

The Radiation Control Program, which is responsible for the protection of public health from all sources of radiation, ionizing and nonionizing, carried out surveys of diagnostic and therapeutic X-ray units in hospitals, private medical and dental offices, and of nuclear medicine departments, radioisotope

users, and particle accelerators. Surveys were conducted at universities, secondary schools, and other institutions that are registered to use radioactive materials. Program personnel also surveyed color TV receivers, microwave ovens, video display terminals, devices that use lasers, and various consumer products containing radioactive material.

A major activity of the program was the extensive environmental surveillance and inspection of fixed nuclear power stations — two in Massachusetts and one in Vermont on the Massachusetts border. Personnel visited sites every two weeks to ensure the proper operation of monitoring equipment. Thermoluminescent dosimeters, placed around each reactor to check data received from the power companies, were replaced quarterly.

Staff of the Radiation Control Program, responsible for responding to radiation accidents and incidents throughout the Commonwealth, served as the principal coordinators of the Nuclear Incident Advisory Team (NIAT) and participated in monthly training sessions. NIAT includes consultants from academic and industrial institutions throughout the state.

The Radiation Control Program maintained responsibility for approving plans for radiation protection for all facilities involved in construction, alterations or reconstruction. Surveys for these facilities were conducted after completion of the work. Additionally, personnel served as primary radiation control experts to other state agencies, such as, the Departments of Environmental Quality Engineering, Energy, Public Safety, and Transportation, and the Civil Defense Agency.

During fiscal year 1981, the Radiation Control Program, in cooperation with the Bureau of Radiological Health of the federal Food and Drug Administration, initiated a statewide quality assurance program on dental X-rays called "Dental Exposure Normali-



zation Technique." Every dentist received a radiation detection device attached to a card requiring exposure information. Receipt of the cards allowed staff to concentrate on the estimated 35 percent of the dentists whose machines were outside the acceptable range. As a result of a press release on radioactive gold rings from the New York State Department of Health, the Radiation Control Program surveyed gold jewelry from many persons at both the Boston and Amherst offices. Staff responded to a similar news release on radioactive Fiestaware by doing surveys of the dinner ware.

A report of the Governor's Advisory Council on Radiation

Protection showed that the Radiation Control Program of the Department was the only state agency with regulatory authority for the disposal of radioactive waste within the Commonwealth. As a result of the report, the Radiation Control Program appointed an ad hoc Oversight Committee to advise the program on low-level waste management.

The participation of the Radiation Control Program in the National Conference of Radiation Control Program Directors and in the New England Radiological Health Compact permitted the Department to cooperate with the other five New England States in radiation health activities.



LEAD POISONING PREVENTION PROGRAM

The Department's Childhood Lead Poisoning Prevention Program provides screening for children who are at risk, distributes screening samples to health care providers, identifies and works to eliminate lead hazards in the environment, and conducts educational programs for both the medical and lay community on the health hazards of lead. During fiscal year 1981, the laboratory of the program processed more than 88,000 specimens for lead toxicity. Of the approximately 87,000 children screened, 4,000 (5 percent) had elevated levels of lead in their blood.

Staff of the Childhood Lead Poisoning Prevention Program inspected dwellings of all children under the age of six with evidence of lead toxicity. They then inspected homes of children under the age of six upon request by a parent, guardian or owner of the dwelling. Increased requests for inspection outdistanced the field staff's capacity to assist in confirmation, referral for treatment, and hazard abatement. In fiscal year 1981, the staff inspected 700 dwellings and made more than 2,400 reinspections to ensure removal of hazards from the children's environment. Over 300 units were brought into compliance.

As part of its broad program of education for community and professional groups, the Lead Paint Poisoning Prevention Program prepared its staff by organizing inservice training on interpersonal relations, inspection techniques, legal procedures, and current management of children poisoned by lead. In the first six months of 1981, staff held 94 workshops for professional and community groups. Local health officers received instruction in lead poisoning prevention and lead paint inspections. A few local boards of health included lead paint inspections and hazard

abatement as part of their systematic code projects.

In cooperation with the Office of the Commissioner and the budget director, program staff established a fee table for analyzing blood specimens from other states. The estimated number of specimens for the first year was 500.

DIVISION OF FOOD AND DRUGS

The Division of Food and Drugs is responsible for protecting the public from the harmful effects of chemicals and pesticides, adulterated foods, ineffective surgical devices, unsterilized bedding, and upholstered furniture. The Division is also responsibile for the registration of pesticides, licensing of cold storage warehouses, bedding, upholstered furniture and stuffed toys, out-of-state soft drink and frozen dessert plants, manufacturers of methyl alcohol, manufacturers of narcotic drugs and vending machines, sellers of hypodermic needles and syringes, licensing of meat and poultry establishments, and the registration of renderers and manufacturers of animal food, food processors, and out-of-state bakeries.

During fiscal year 1981, the Division's staff made regular inspections as required; 10,655 licenses, permits, certificates and registrations were issued or renewed. New fees for services were set by the Secretary of Administration as mandated by Chapter 572 of the Acts of 1980. Applications for licenses issued after April 13, 1981 were subject to the new fees.

The Division's laboratory analyzed 8,434 samples in the general food area, exclusive of milk. The laboratory also made analyses for charitable organizations with regulatory authority. The Division cooperated with the Massachusetts Departments of Food and Agriculture, Public Safety, Education, Environmental Quality Engineering, and Natural Resources, as well as

with the Office of the Attorney General, the Consumers' Council, and the Alcohol Beverage Control Commission in programs of mutual interest.

Division inspectors stationed at the fish piers in Boston, Gloucester, and New Bedford ensured the wholesomeness of all fish coming into the main piers of Massachusetts. During the fiscal year, the Division made 14,012 seafood inspections, exclusive of inspections for paralytic shellfish poison. Seafood samples collected from the New Bedford area showed trace levels of contamination by polychlorinated biphenyls. Lobsters collected from the outer harbor did not show excessive levels, but lobster fishing in the inner harbor continued to be forbidden.

Demands for analysis of drugs submitted by law enforcement agencies overtaxed the facilities of the Division's laboratories in both Boston and Amherst. The Division analyzed 140,650 samples in fiscal year 1981, an increase of 21.8 percent over the 110,000 samples in 1980. Although marijuana accounted for the largest number of samples, the Division again recorded increases in the use of heroin, cocaine and phencyclidine (PCP, commonly called angel dust).

COMMUNITY SANITATION

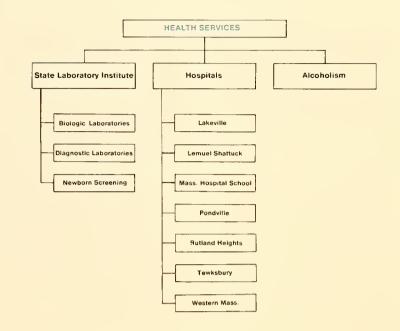
As consumers became more aware of the activities of the Division of Community Sanitation, the work load of the Division increased. Requests for consultation or direct service came not only from the general public but from the Governor's Community Service Office, the Office of the Attorney General, and the Citizens Information Service. Most of the requests related to violation of the Minimum Standards of Fitness for Human Habitation, and general nuisance problems. Direct service for enforcement of the housing code was provided for community residences licensed by the Department of Mental Health and the Office for Children. Water samples were collected from certain foster homes for the Department of Public Welfare.

The semi-annual inspection of all state and county correctional facilities continued. The Supreme Judicial Court ruled in favor of the Department after the Worcester County House of Correction had challenged the validity of the Department's regulations on sanitary standards in correctional facilities. Court officials were ordered to improve conditions at the Deer Island House of Correction as required by departmental regulations and standards.

The Department has a statuatory mandate to promulgate regulations for the form and content of medical records and admission physicals for inmates in correctional institutions. During the fiscal year, public hearings were held and such regulations promulgated.

Random inspections of a small number of the state's approximately 450 recreational camps showed an improvement in conditions over the previous year; however, health and safety violations required attention. Three recreational camps for children, cited during the previous summer, were reinspected and found to be markedly improved. Division staff inspected and certified 34 farm labor camps housing 420 farm workers.

Staff also inspected and monitored all fluoridation installations in the state. Plans for installing new units were reviewed for the communities of Peabody, Bedford, Marlborough, Taunton and Lowell.



HEALTH SERVICES

Through the three components of the Health Services Section - the State Laboratory Institute, the seven public health hospitals, and the Division of Alcoholism — the Department assumes special responsibilities to ensure comprehensive health services and health care to the Commonwealth. The State Laboratory Institute, through its three major divisions, Biologic, Diagnostic, and Newborn Screening, continues to provide a broad range of medical preventive and diagnostic services to protect the health of the people of Massachusetts. The hospitals have worked closely with community groups to develop programs for needed services on both an inpatient and outpatient basis. Detoxification and rehabilitation services are also available through the Department's community-based alcoholism program.

STATE LABORATORY INSTITUTE

The high quality of services provided by the State Laboratory Institute has been built upon a long

tradition of research and development, a tradition that continued strongly during the 1980-1981 fiscal year. Staff of the Institute contributed extensively to the development of new disease-control policies that are emerging as a result of technical advances. Activities of the State Laboratory Institute fall into the following categories:

- Research and development of new technology
- Performance of a variety of tests on more than one million specimens for clinical purposes
- Production and distribution of serums and vaccines for use throughout the year
- Diagnosis of rare or exotic disease
- Establishment of new diagnostic tests.

Many of these services represent the technical base that guides other activities of the Department.

The Institute has increasingly provided central support services and certain administrative services for additional programs housed at the Institute but managed by other sections of the Department of Public Health, such as, the Food

and Drug Program, the Lead Paint Poisoning Prevention Program, and the Radiologic Health Laboratory; and for other Departments, such as, the Racing Commission Laboratory and the Biochemistry Laboratory of the Department of Mental Health.

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories not only maintained its traditional capacity for supplying schools, public clinics, and institutions with established vaccines and serums, but also made several breakthroughs, the importance of which has spread beyond Massachusetts. These included:

• Federal Licensure of Varicella-Zoster Immune Globulin — This event received international press coverage. The new preventive vaccine is effective against life-threatening chickenpox exposures of children with leukemia or whose defenses have been weakened as a side effect of other medical practices. The Biologic Laboratories are the sole supplier in the United States and the only world supplier licensed by the Food and Drug Administration (FDA).

• Shick Test Materials — The Biologic Laboratories have been certified as the sole national supplier of shick test toxin. This material can be used to evaluate the functioning of the immune system of hundreds of children with natural or medically induced abnormalities.

• Certification of Improved Tetanus Toxoid Vaccines — The laboratories' routinely produced toxoid for use in Massachusetts, now recognized as an international standard, has been purchased by the FDA for such use. In addition, special formulations have been developed that induce long-lasting immunity in persons who may be hard to reach for the standard treatment of multiple doses.

• Improved Pertussis (Whooping Cough) Vaccine — Although

this project was still in the experimental stage, results of animal tests were encouraging and suggested that the potency of the vaccine might be preserved while reducing the toxicity.

DIAGNOSTIC LABORATORIES

Bacteriology Laboratory

The 175,863 specimens submitted to the Bacteriology Laboratory in fiscal year 1981 represented a 5 percent decrease from 1980, but an approximate 2 to 4 percent increase as compared to 1977 through 1979. The changes in volume of the different kinds of specimens received appear in Table 3.

The Throat Culture Program processed 100,495 specimens, a decrease of 9.5 percent from 1980; however, 19.9 percent of these specimens were positive for Group A streptococci, an increase of 2.1 percent over the positivity rate of the previous year.

The Gonorrhea Control Program reported an increase in the volume of cultures of 4.9 percent; the overall positivity rate was 5.7 percent. The Bacteriology Laboratory notified physicians and clinics that it would no longer accept smears from women after June 30, 1981, because culture was the recom-

mended method for the bacterial diagnosis of gonorrhea in women.

The Enteric Culture Program also reported a decreased volume of specimens — 11 percent less than in fiscal year 1980. Greater staff time was required, however, to culture for campylobacter, a bacterium that is now an increasing cause of food-borne outbreaks. Specimens increased by 74 percent. The number of food-borne outbreaks requiring support from the laboratory was more than double that of last year.

The volume of specimens submitted for fungal identification to the Mycology Laboratory remained approximately the same as that in the previous year. The volume of specimens forwarded to the Centers for Disease Control for histoplasmosis, blastomycosis, and coccidiomycosis has continued to decline, down by 15.2 percent.

Parasitology Laboratory

The Parasitology Laboratory expanded the availability of tests for the detection of parasitic diseases. More requests were received for the diagnosis of toxoplasmosis than for all the other parasitisms combined — 1,895 as compared to 1,785 specimens in 1980. The second most frequently requested testing was for amebiasis — 287.

Table 3.

Five-Year Summary of Number and Kinds of Specimens Examined by the Bacteriology Laboratory

1977 - 1981.

Specimens	1977	1978	1979	1980	1981
Enteric Pathogens	10,178	10,025	10,270	10,006	8,904
Gonorrhea*	58,707	60,330	61,803	60,693	63,216
Mycology	425	508	950**	850**	907**
Serology	90	112	230	257	203
Throat Cultures	97,899	95,214	97,682	111,035	100,495
Food	75	86	38	24	59
Miscellaneous	1,739	1,924	2,337	2,515	2,079
Totals	169,113	168,199	173,310	185,380	175,863

^{*}Includes cultures and smears

^{**}Includes fungal serology.

Laboratory personnel, in cooperation with the Harvard School of Public Health, sent various specimens to the Centers for Disease Control as part of a tularemia surveillance study. One of a small number of state laboratories, the Parasitology Laboratory has been participating in a pilot surveillance of visceral larva migrans, a disease often due to the presence of larvae of the cat and dog hookworms. By the end of the fiscal year, laboratory staff had begun a study on the therapeutic efficacy of pyramethamine and quinine for the treatment of babesiosis.

Serology Laboratory

The Dr. William Hinton Serology Laboratory again participated successfully in the federal Syphilis Serology Proficiency Testing Program conducted by the Venereal Disease Program of the Centers for Disease Control on the standard tests for syphilis. For the first time, the laboratory was inspected by a CDC team of surveyors as part of an application of the Diagnostic Laboratories for certification as an independent laboratory under the federal Medicare Program. Approval was given for both syphilis and rubella antibody testing in October 1980, at which time, responsibility for the rubella program was transferred from the Virology Laboratory to the Serology Laboratory.

Since 1961, when rabies was first found in local bats, the disease has been diagnosed in bats submitted to the laboratory each year. Of the 608 suspicious animals examined in the Rabies Program in fiscal year 1981, 139 were bats, 13 of which were positive. Five of these were associated with biting of humans. The percentage positive frequency of rabies in bats was 9.3 percent in 1981, the highest percent positive rate since 1977.

Probably the most important contribution made by the Rabies Program is the direct, diagnostic emergency service available at all times to determine whether postexposure rabies immunization is essential, or whether it is safe to forego such treatment.

Virology Laboratory

The Virology Laboratory maintained essential primary and referred diagnostic services for viral, rickettsial, and chlamydial diseases. A total of 11,973 specimens were received, processed, and tested in 39,511 separate examinations for the diagnosis of many acute and chronic diseases.

In an important accomplishment over the past year, the Virology Laboratory was able to develop, adapt, and apply more rapid and accurate procedures in the diagnosis of such diseases as Rocky Mountain Spotted Fever and typhus, varicella-zoster, *Mycoplasma pneumoniae*, herpes and cytomegalovirus, eastern equine encephalitis, and lymphocytic choriomeningitis, which is transmitted by rodents and produces severe neurologic disease in infected persons.

Massachusetts has been free of louse-borne typhus (epidemic typhus) for more than three decades. In 1980, the Centers for Disease Control's Virology Division of the Bureau of Laboratories described case histories of eight persons who had serologic reactions that indicated recent infection with Rickettsia prowazekii, the etiologic agent of epidemic typhus. One patient was a Massachusetts resident who, like several of the other patients, had had contact with a gray or flying squirrel. The case of the Massachusetts patient was described in detail in the Department's column in the New England Journal of Medicine, May 7, 1981.

Encephalitis virius-monitoring was provided through a very active mosquito analysis program — approximately 40,000 mosquitoes were captured and combined into 2,120 pools for testing. Only 30 positive specimens were detected — 25 for Highland J virus (Rocky

Mountain Spotted Fever), and five for eastern equine encephalitis virus (EEE), down from 56 in the previous year. One case of human encephalitis occurred in a patient treated at a Massachusetts hospital. The man had presumably been infected by the virus in his state of residence, New Hampshire, where a focus of infection in horses centered around Kingston, on the Massachusetts border. Eight pheasants from a farm in Dracut, close to the New Hampshire border, were found positive for EEE.

Laboratory Improvement Program

Although the Laboratory Improvement Program had stopped producing its own proficiency testing specimens, it worked with the Laboratory Regulation Program of the Division of Health Care Quality to evaluate laboratories seeking approval for premarital and prenatal syphilis serology and for premarital rubella serology. In fiscal year 1981, the program sent letters of approval to 208 clinical laboratories.

The Laboratory Improvement Program continued to provide training programs for all the New England States under provisions of the CDC Training Program contract.

NEWBORN SCREENING

The third major division of the State Laboratory Institute, Newborn Screening, consolidated the Metabolic Disorders Screening Program and the Hypothyroidism Screening Program into a single unit with a central office, Director and Assistant Director. The result has been more efficient use of personnel and greater productivity.

Hypothyroidism Screening Division

The Hypothyroid Screening Division screened 158,004 blood specimens for congenital hypothyroidism (cretinism) during fiscal year 1981. Of these specimens, 75,344 came from Massachusetts, and

82,660 from four other New England states (Table 4). Of the 6.046 infants with low thyroxine (T4) levels, 30 were identified as hypothyroid. Only two of these infants might have been diagnosed clinically; thus, without the screening program, the diagnosis would have been missed in the other 28 infants. All the hypothyroid infants were started on thyroid replacement before three months of age, after which time damage to the central nervous system becomes irreversible. These infants have been entered into a follow-up study to evaluate the results of early treatment on physical and mental development.

Metabolic Disorders Screening Program

Screening of newborn blood specimens for phenylketonuria (PKU) continued to be the mainstay of the program, as it has been since the program's inception in 1962. The program also tested for over 30 other inborn errors of metabolism and continued to test for PKU and three other metabolic disorders for the States of Maine and Rhode Island (Table 5). During fiscal year 1981, eight infants with PKU were identified and placed on a special diet within the first two weeks of life. It was anticipated that they would be spared the mental retardation that would otherwise have occurred.

The program detected two rare metabolic disorders as a result of screening of urine — prolidase deficiency and a vitamin B_{12} metabolic defect. Treatment was being sought for the first condition. Treatment with large doses of vitamin B_{12} greatly improved the outlook for the second infant.

A major interest of the program continued to be maternal PKU. A number of girls who were found to have PKU by newborn screening in the early 1960s, but who are now clinically normal because of early treatment, are entering their childbearing years. The Metabolic Disorders Screening Program has been

Table 4.
Newborn Screening Laboratories
Hypothyroidism Screening Laboratory
July 1, 1980 - June 30, 1981.

State	No. Screened	No. Low T4	No.Hypothyroid
Connecticut	40,204	1,390	6
Maine	16,771	791	3
Massachusetts	75,344	2,469	17
New Hampshire	13,142	712	2
Rhode Island	12,543	684	2
Totals	158,004	6,046	30

Table 5.
Newborn Screening Laboratories
Metabolic Disorders Laboratory
July 1, 1980 - June 30, 1981.

		Percent of
A. Routine Specimens	Number	Live Births (Mass.)
Umbilical Cord Blood	73,039	97
Newborn Blood (Massachusetts)	75,344	> 99
Newborn Blood (Maine)	16,771	
Newborn Blood (Rhode Island)	12,543	
Newborn Urine	57,724	77
	235,421	
B. Other Specimens*	2,954	
Total Number of Specimens	238,375	
Total Number of Tests Performed		606 618

^{*}Secondary specimens obtained for specific purposes such as confirming a disease in an infant (follow-up newborn blood or repeat urine specimen) or for testing immediate relatives of an infant with a known or suspected disease to ascertain additional cases within a family.

studying whether the children of these mothers will be damaged because of the mothers' PKU. Whether this damage can be prevented by dietary treatment during pregnancy has as yet remained unresolved.

HOSPITALS

The role of the seven public health hospitals in the overall delivery of health care in the Commonwealth remained a matter for discussion during fiscal year 1981. Although many services once provided only by these hospitals have been absorbed by the private sector, the hospitals, in general, continued to provide a broad range of clinical services to meet the needs of patients with long-term but remedial disabilities. Despite budgetary restrictions and the general short-

age of nurses, the Department of Public Health's hospitals maintained quality care and accreditation. Three major developments occurred during the year:

- The Department made great progress in plans to transfer Pondville Hospital to the private sector. The Department had solicited proposals from institutions interested in purchasing Pondville, and entered into negotiations with Norwood Hospital. By the end of the fiscal year, negotiations and a sales agreement were nearing completion.
- The Lemuel Shattuck Hospital received a Determination of Need approval to open a 75-bed psychiatric unit to treat patients now cared for at Boston State Hospital. The project will allow for more efficient use of the Shattuck, as well as further the goal of consolidation of underutilized state facilities.

• Western Massachusetts Hospital developed a special coma unit, a project representative of the innovative programs being attempted by the Department's hospitals. The coma unit received national acclaim and requests for admission from all over the United States.

The services and programs of the seven public health hospitals are briefly summarized.

 Lakeville Hospital — A 130-bed chronic disease rehabilitation hospital located in Middleboro in the southeastern region of the state, Lakeville Hospital has an inpatient census divided equally between pediatric and adult patients. Although the average inpatient census (93.4 versus 103.2 in 1980) and the number of patient days (34,094 versus 37,694 in 1980) decreased in fiscal year 1981, the number of admissions increased by 7.5 percent, an indication of a shorter average length of stay and a continuing shift toward true rehabilitation. Outpatient visits to the hospital's many specialty clinics continued to increase. Despite its uncertain future, the 10-station renal dialysis unit increased the number of treatments from 6,044 in 1980 to 6,708 in 1981. The Department has solicited other vendors to treat dialysis patients in the southeastern area to permit the Lakeville Hospital unit to close. Hospital staff continued to provide educational services through training affiliations and an accredited Continuing Medical Education Program. In addition, several weight-loss, stop-smoking, and cardiopulmonary resuscitation clinics were held.

• Lemuel Shattuck Hospital —

Located in the Jamaica Plain section of Boston, the Lemuel Shattuck Hospital provides inpatient care to patients suffering acute episodes of chronic illness, and outpatient follow-up. Medical and surgical services are provided to other state agencies, including the Department of Mental Health and the Department of Correction. The

75-bed medical geriatric unit serves former patients from the Boston State Hospital. The 15-bed medical correction unit operated at over 100 percent occupancy. Construction work proceeded on the Department of Correction's outpatient holding area to permit an enlarged capacity for treatment of these patients.

The Outpatient Department, which operated over 25 specialty clinics, opened new ones in dentistry, chronic care, pain and stress, and psychiatry. The pain and stress clinic began treating patients with chronic pain, unrelieved by traditional treatment, with a comprehensive range of treatment modalities. The expanded psychiatry clinic provided to elderly in nursing homes or the community a broad range of services that included memory training, testing and supportive psychotherapy. The hospital offered a special program of training for 36 graduate student interns in psychology, counseling. social service, and recreational and music therapy.

A major four-year grant from the Robert Wood Johnson Foundation allowed the hospital to organize an innovative chronic-care program for nonhospitalized patients that developed a staff of nurse practitioners skilled in the management of patients with chronic diseases. After the completion of the first year, chronic disease nurse practitioners were managing the care of over 100 patients. New patients were being added at the rate of 15 to 20 a month.

The 11-station renal dialysis unit decreased the number of treatments by 6 percent — from 8,224 in 1980 to 7,727 in 1981.

• Massachusetts Hospital School

— The Massachusetts Hospital School, located in Canton, is a unique institution that provides medical, educational, and restorative services to physically handicapped but intellectually able children from age three to 21. The trend of placing and keeping handicapped children with such disabilities as cerebral palsy, muscular dystrophy, and spina bifida in the community has resulted in a core population with more severe disabilities at the Hospital School.

The Hospital School continued to provide a wide range of clinical services — orthopedics, cardiology,





cerebral palsy, Milwaukee Brace, myelodysplasia — to both inpatients and outpatients from the surrounding communities. When medically indicated, surgery, principally orthopedic, was performed. During fiscal year 1981, the Hospital School strengthened its respiratory and pediatric services, a move that reflected the increasing severity of the patients' needs.

Programs to develop the skills necessary for independent living were reinforced during the year. The Student Independent Living Experience (SILE), operated by the Hospital School's nonprofit partner, the Medical and Educational Fund for the Handicapped, gave students an opportunity to experience independent living. The Gates Program, operated by Hospital School personnel, worked closely with the SILE Program.

In the spring of 1981, the Governor officiated at groundbreaking ceremonies for a new power plant and a gymnasium/pool recreational complex. The projects were slated for completion in two years. Progress was also being made on housing for the severely disabled being developed by the Canton Housing Authority, the Medical and Educational Fund for the Handicapped, and the Massachusetts Hospital School with funding granted under Chapter 689 of the Massachusetts General Laws.

• Pondville Hospital — The first state-operated facility for the treatment of cancer in the United States, Pondville Hospital, a 104-bed institution in Walpole, has served the public and the Commonwealth with distinction for over 60 years. Despite the problems created by a reduced budget and the uncertainties of the pending transfer of ownership to the private sector, the hospital staff maintained quality patient care. Multimodality treatment of cancer — surgery, radiation, and chemotherapy — continued.

Researchers in the Ira T. Nathanson Research Laboratories resumed investigations of certain selective antineoplastic effects of lysolecithin, and initiated a new line of research to verify the antineoplastic activity of reduced glutathione. By the end of the year, publication of the data was in preparation.

Community education programs included seven seminars in smoking, eight seminars in breast self-examination with 100 participants, and eight seminars in cancer prevention and early detection with 86 participants. Hospital staff organized a seminar on cancer nursing that was presented to 19 nursing schools and attended by over 1,000 students and instructors. A fourpart, eight-hour seminar on the chemotherapeutic management of cancer was organized for community nurses.

• Rutland Heights Hospital — Located in the Town of Rutland, the Rutland Heights Hospital is a multipurpose facility that serves an adult population in the central Massachusetts region. During fiscal year 1981, the hospital operated 130 beds and provided outpatient diagnostic, rehabilitation and day-care services.

As part of its program of prevention, the hospital maintained a comprehensive health program to prevent, delay, or reduce the need for institutional care, and gave patients a directory of health-related information and services in the communities. The Adult Day Care Program served a population within a 10-

mile radius of the hospital on an outpatient basis. The program provided, under professional supervision, an alternative setting for adults at risk of being institutionalized, as well as physical fitness, social, and educational activities.

The rehabilitation program made available an integrated system of medical, nursing, therapeutic, and support services through a team approach. The alcoholism treatment program, centered in a threebed unit, offered rehabilitation through social services, individual, group, and vocational counseling to alcoholics who voluntarily requested treatment.

• Tewksbury Hospital—Tewksbury Hospital in the northeastern region of the state, with a bed capacity of 820, is the largest chronic disease, rehabilitation hospital in the state. It also operates a 225-bed program for homeless men, who are chronic alcoholics. One hundred and twenty medical beds were assigned to the care of former patients from the Danvers State Hospital. These are geriatric patients with both physical and psychiatric problems.

During fiscal year 1981, the hospital maintained an average occupancy rate of 93 percent. The demand for admissions to Tewksbury Hospital was so overwhelming that the hospital was forced to stop issuing admission forms in September 1980. Admission forms were reactivated in January 1981.

The case load in the occupational therapy department increased to 185. A rehabilitation team of occupational, recreational, and physical therapists worked to enable all patients to achieve their maximum level of health and independence and to return to a productive life in the community.

• Western Massachusetts Hospital — Located in Westfield in Hampden County, the Western Massachusetts Hospital offers long-term care of chronically ill adults, rehabilitation and alcoholism programs, and medical and

Table 6.
Public Health Hospitals
Annual Census Summary — July 1, 1980 - June 30, 1981.

Hospitals	Admissions	Discharges	Days	Stay	Census	Visits
Lakeville*	347	341	34,094	98.25	93.41	8,779*
Lemuel Shattuck*						
Main	1,221	1,246	28,652	23.47	78.5	25,062*
Medical Geriatric	57	53	24,164	423.93	66.2	ŕ
Mass. Hospital School	109	115	26,687	244.83	114.79**	1,676
Pondville	927	780	12,811	13.82	35.10	16,450
Rutland Heights	334	316	41,076	122.98	112.54	950
Tewksbury						
Main	235	43	278,938	1,186.99	764.21	
Homeless Men	211	192	54,030	256.07	148.03	
Western Mass.	564	499	30,738	54.50	84.21	8,487
TOTALS	4,005	3,585	531,190			61,404

^{*}The dialysis units at Lakeville and Shattuck Hospitals provided 6,708 and 7,727 treatments (including home dialysis), respectively.

surgical care of multiply handicapped children. The medical unit continued to provide care to patients with chronic medical conditions that require a higher level of care than what is available at a nursing home. In addition, it provided respite care for both children and adults, and day-care services for adults with physical disabilities.

The hospital experienced a modest increase in patient admissions, a 10 percent increase in patient days, and a 11 percent increase in occupancy rates, as compared to the previous fiscal year. Although all patient-care programs shared in the overall increases, the greatest increase was in programs serving chronically and terminally ill patients. This factor was due in part to the development of the special coma unit. At the same time, the hospital organized a support group for the families of patients in the unit, and a similar group for families of terminally ill patients.

The seven hospitals admitted 4,005 patients during the fiscal year 1981, a decrease of 195 (4.6 percent) from 1980. The average length of stay varied from 13.82 days at Pondville to 1,186.99 days at Tewksbury. The number of outpatient visits — 61,404 — represented a decrease of 4,617 from 1980 (Table 6).

As part of the Department's total public health effort, the seven hospitals continued to expand training of physicians and paramedical personnel. Lemuel Shattuck, Pondville, Tewksbury and Western Massachusetts Hospitals graduated about 150 practical nurses from their accredited schools of practical nursing.

DIVISION OF ALCOHOLISM

The Division of Alcoholism strengthened activites for building its network of prevention resources, both regionally and statewide. During fiscal year 1981, the Division continued to fund eight community-based, regional prevention centers. The Division also funded five model prevention programs designed for school systems, youth agencies, churches, college campuses, and parents of adolescents, as well as a model for the recruitment, training, and use of volunteers in performing primary prevention and educational activities. The Division completed two media campaigns to promote public awareness of, and support for, primary prevention efforts.

In the area of secondary prevention, the Division continued to fund seven programs that seek to

identify and treat youths with a drinking problem. The projects provided education, intervention counseling, advocacy and alternatives to drinking. The Division maintained its commitment to the state's employee assistance program as a means of early identification of potential alcoholics. In the past year, more than 150 state employees received clinical services. The state's driver alcoholeducation and treatment program offered necessary services to the growing number of persons arrested for drunken driving. Over 17,000 were referred to these programs in fiscal year 1981. Several innovative programs were implemented during the year — an outpatient program specifically for an elderly population, the Community Training and Resource Center for special populations, and the Hispanic Alcoholism Planning Project.

The Division continued to fund the statewide system of 21 detoxification centers; a 22nd center, Beacon Detoxification Center, in Franklin County, was completed. The Division also maintained its support of 48 halfway houses and 33 outpatient programs.

^{**}Average daily census at the Massachusetts Hospital School has been adjusted to reflect enrollment days



* Transferred to Executive Office of Human Services in fiscal year 1982

HEALTH REGULATION AND PLANNING

Through its program of standard setting, inspection, licensure, and review, the Department works to ensure the people of Massachusetts safe health care. Under the provisions of the Determination of Need Act, the Department also has the responsibility for preventing unnecessary expansion of health care facilities.

HEALTH CARE QUALITY

The Division of Health Care Quality is mandated by state and federal statutes to license and certify health care facilities and services in the Commonwealth. In fiscal year 1981, the Division licensed approximately 800 facilities, including hospitals, clinics, nursing homes, rest homes, ambulance services and blood banks. Approximately 1,000 facilities and services were certified for federal programs. The Division also reviewed, on behalf of the Department of Welfare, about 34,000 Medicaid patients in long-term care facilities, state schools for the mentally retarded, and psychiatric hospitals for adequacy and quality of care, and for appropriate placement.

The Division reviewed and approved the design, planning, and construction of 620 projects for health care facilities involving new construction, renovations, alterations and acquisition of new equipment to ensure compliance with certain Life Safety Code, building,

and Determination of Need requirements. Complaints concerning patient care, staffing, physical environment, and other aspects of delivery of services affecting the safety and well-being of patients in long-term care facilities were investigated. Seventy-five of the 325 complaints were found to be either partially or fully justified and were resolved through consultation or formal enforcement action.

The Division's responsibility for investigating complaints was broadened by a new state law requiring facilty staff to report incidents of abuse, mistreatment, and neglect of patients and residents of longterm care facilities. The Division investigated 34 complaints of patient abuse. Twelve were not substantiated on investigation: 16 were either partially or fully justified; and six were referred to the Office of the Attorney General for review and investigation. Five of the 16 substantiated cases were referred to the Office of the Attorney General for follow-up, and 11 were resolved through consultation or formal enforcement action of the Department.

To protect patients and improve patient care, the Division initiated revocation actions against six longterm care facilities and one ambulance service, and initiated decertification actions against three nursing homes and three clinical laboratories. Seven substandard long-term care facilities with severe deficiencies in patient care and fire safety were closed. Division staff provided active assistance in the relocation of patients from these substandard nursing and rest homes to suitable alternative facilities. To prepare for future patient relocations, the Division began development of a patient relocation plan to be put into operation only when other measures prove fruitless.

During fiscal year 1981, the Division continued its efforts to reduce excessive regulation and eliminate duplicative surveys of facilities and services. Division staff prepared regulations to implement an agreement between the Department of Public Health and the Joint Commission on Accreditation of Hospitals (JCAH) to offer "deemed" status by the Department to facilities accredited by the JCAH. Accepting JCAH accreditation as the basic qualifier for state licensure will permit the Department to reduce the time surveyors spend in routine surveys.

A major revision of the regulations governing blood banks was promulgated in March 1981 to permit accepting accreditation by the American Association of Blood Banks (AABB) in lieu of a state survey for licensure. The blood bank regulations were based on the AABB's standards and on the regulations of Medicare and the federal Food and Drug Administration.

A third set of regulations — governing licensure of clinical laboratories — was promulgated in May 1981. These regulations, which reduce state inspections, provide for acceptance of accreditation, certification or licensure by a program deemed equivalent for state licensure by the Department.

Rate incentive regulations allowing for reward of facilities for outstanding compliance were debated at a public hearing in August 1980 and promulgated in April 1981. A Rate Incentive Task Force has been

meeting to develop an improved system to measure the quality of nursing homes. The Nursing Home Disability Regulations, which were developed to allow an increase in reimbursements for facilities caring for patients with severe disabilities, were promulgated in March 1981.

DETERMINATION OF NEED

Under the provisions of the Determination of Need (DON) Law (Chapter 776 of the Acts of 1972), the Department is responsible for analyzing the need for, and cost-effective allocation of, health care facilities in the state. The objectives of the legislation were: to control health costs by eliminating duplication of expensive facilities, services, and technologies; to reduce costs of certain projects with weak or faulty planning; to encourage the regionalization of health care services; to encourage equitable geographic and socioeconomic access to health care; to encourage participation of all interested parties in the review of proposals; and to improve internal hospital planning.

The DON Program has made progress toward achieving these objectives. Some of the specific accomplishments of the program have been:

- Reduction of hospital-bed capacity. Between 1976 and 1979, the Commonwealth recorded a net reduction of 600 acute-care beds.
- Participation with the Rate Setting Commission in the reduction of the annual growth of acutecare hospital expenditures from 14.2 percent in 1976 to the current 9 to 11 percent range.
- Reduction of DON proposed costs by an average 25 percent, i.e., the difference between project costs initially proposed and the project costs approved by the Department.

- Encouragement of the development of psychiatric services in community hospitals to facilitate the consolidation of State Mental Hospitals.
- Aid to the growth of services, such as, renal dialysis, acute psychiatric, neonatal care, CT scanning, and alcoholism, in underserved areas of the state while restraining their growth in oversupplied areas (usually Boston).

During fiscal year 1981, the Department began a careful evaluation of the role of the DON Program in the decade ahead. Convinced that DON has been, and will continue to be, an important costcontainment measure, the Department has recommended to the Legislature the reduction of the scope of the program by eliminating certain projects that have marginal effect on the cost and quality of care, specifically, the original licensing of clinics and halfway houses and changes in hospital ownership. At the same time, the Department has taken steps to review smaller applications more expeditiously. Under an Administrative Review Procedure, decisions on these smaller applications have been delegated to the Commissioner, thus reducing time and effort of staff, the Public Health Council, and applicants.

EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS), an agency of the Department of Public Health since 1973, continued to work with many organizations and agencies on a regional and statewide basis to improve the delivery of emergency medical care. OEMS, working with public officials, hospitals, physicians, the Massachusetts Hospital Association, and local and regional councils, coordinated training programs, developed treatment protocols, and coordinated the activities of health care facilities. Each of the



six Massachusetts regions now has a functioning regional council. Four of the regions received advanced life support implementation grants from the United States Department of Health and Human Services that totaled \$1,025,000 in fiscal year 1981.

During the past year, OEMS concentrated on improved care for groups of critically ill patients. The statewide Burn Committee brought together experts in burn care and representatives from regional and community hospitals to investigate the organization of burn care in the Commonwealth. Members of the Statewide Spinal Cord Injury Committee worked to identify comprehensive and intermediate level capabilities for the care of spinal-cord injured patients.

The Office of Emergency Medical Services also staffed a Statewide Helicopter Task Force that made recommendations for the Department's policy on air ambulance service in Massachusetts. The Statewide Trauma Study, funded by a grant from the Governor's Highway Safety Bureau, collected data from 49 hospitals. Results of the study will be made available by the end of 1981.

Programs to upgrade resources and to broaden local and state emergency medical services networks functioned throughout the year:

- OEMS provided administrative coordination and approval of all basic emergency medical technician (EMT) courses in the state. In calendar year 1980, 5,046 ambulance attendants were trained at the basic level, 2,509 were certified as EMTs, and 237 were trained to provide advanced life support.
- OMES put into operation a state testing and registration system for the processing and dissemination of test results, continuing education status, and measurement of instructor/coordinator performance.

- The system also provided computerized listings of approved continuing education courses.
- Training of emergency room nurses was maintained. During the year, 197 nurses participated in the Critical Care Emergency Department Nurse Program. OMES also began a course in triage procedures for such nurses.

HEALTH PLANNING

Fiscal year 1981 marked the fifth year during which the Department of Public Health functioned as the federally designated State Health Planning and Development Agency (SHPDA). The Office of State Health Planning (OSHP), the unit within the Department that carried out the SHPDA's responsibilities, continued to distribute the State Health Plan. To facilitate the implementation of the State Health Plan, OSHP prepared and distributed the State Health Plan Policy Summary, which highlighted the key issues, conclusions, data and policy recommendations. Other accomplishments of OSHP during the fiscal year were as follows:

- Published the document "Cancer Control: A State Health Plan for Massachusetts."
- Published a policy evaluation of treatment for End State Renal Disease, "Using A Dialysis Need-Projection Model for Health Planning in Massachusetts."
- Released a policy analysis of Health Maintenance Organizations, "Progress Report and Development Strategy for Massachusetts."
- Prepared an issue paper,
 "Chronic Disease Hospitals."
- Released a data summary of home health agencies, "Analysis of Medicaid and Other Home Health Agency and Patient and Provider Data in Massachusetts."
- Issued a policy statement and report entitled, "Development and Implementation of a Helicopter Aeromedical System for the Commonwealth."
- Submitted to the Executive Office of Human Services a proposal outlining a strategy for the reform of the Mental Health system in Massachusetts.



HEALTH STATISTICS AND RESEARCH

The Division of Health Statistics and Research continued to carry out its core functions of collection and dissemination of data on vital events, licensed health professionals, and health facilities in the Commonwealth. The Division fulfilled its broader responsibility to provide coordination of data among agencies that collect data, to provide statistical standards, population estimates, and technical assistance to users of data, and to serve as a clearinghouse for information on public health research.

In fiscal year 1981, the Division did the planning and initial staffing of the Massachusetts Cancer Registry, a statewide cancer incidence

registry to be maintained by the Department of Public Health, in accordance with Chapter 111, Section 111B, Massachusetts General Laws. The Division's research staff cooperated with several towns and local boards of health in conducting cancer mortality studies.

During the past year, the Division recorded the following additional accomplishments:

- The Division participated in a major investigation of the incidence of childhood leukemia in Woburn, in conjunction with staff from the Department's Environmental Health Section, and researchers from the Centers for Disease Control.
- The Registry of Vital Records and Statistics processed and analyzed data for approximately 250,000 births, deaths, marriages, divorces, and abortions.

- The Health Resources Unit processed and analyzed data from over 100,000 health professionals and from approximately 2,000 health facilities, and aided health care facilities in preparing material for Determination of Need and long-range planning activities.
- The Research Unit provided technical assistance to investigators both within and outside the Department, and participated in the Technical Review Committee of the Massachusetts Health Data Consortium.
- The Division published Part I of Massachusetts Standardized Mortality Ratios: 1969-1978, a 10-year study of mortality in each of the state's 351 cities and towns, and provided technical consultation to local boards of health in interpreting the data for their municipalities (Fig. 5).

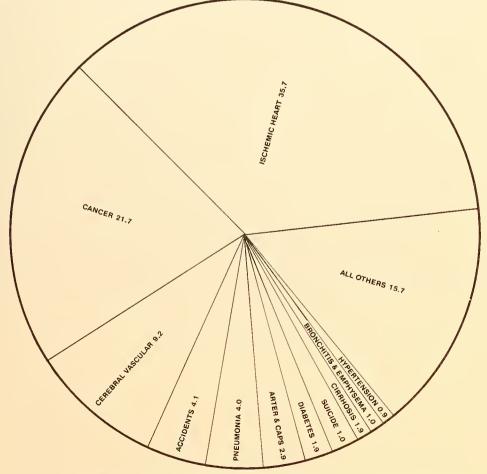
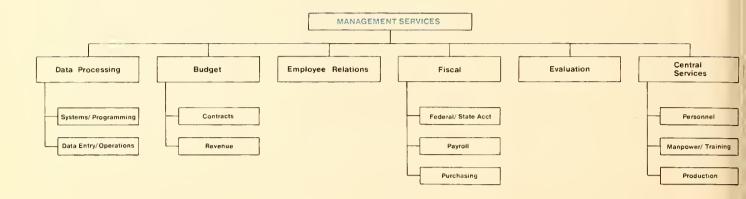


Figure 5. Percentage Distribution of Massachusetts Deaths by Major Causes, 1974 - 1978.



MANAGEMENT SERVICES

Management Services consolidates the activities of the Budget Office, the Division of Data Processing, the Fiscal Office, the Division of Program Evaluation, the Office of Employee Relations, and the Division of Central Services. These Divisions provide centralized administrative services to the Department.

DATA PROCESSING

The Division of Data Processing provides computer resources to the Department of Public Health through a time-sharing and remotejob entry contract with a computer service bureau. The Division also provides advice on data processing to the Divisions of the Department, and reviews all Division requests for data-processing services, equipment, and systems. Major projects in fiscal year 1981 included:

- The transfer of the automated WIC system from an outside computer service bureau to a Commonwealth Computer Center, which resulted in an annual savings of \$100,000 for the Division of Family Health Services.
- A thorough review of the Division of Alcoholism's Management Information System.

- A continued major role in the development of Administration and Finance's integrated Personal/Payroll Management Information System, for which the Department will be the initial test site.
- Feasibility studies for an automated laboratory management and fee-for-service program for the Division of Biologic Laboratories, State Laboratory Institute.
- Completion of a competitive procurement for word processing equipment for the Divisions of Family Health Services, Radiation Control, Health Planning, and for the Bureau of Management Services.

BUDGET OFFICE

The Budget Office, which supervises the preparation of annual budget requests and spending plans for the Department's 24 state appropriation accounts, oversees the work of its Contracts and Revenue Units. The Revenue Unit implemented new fee structures to increase revenue to the Commonwealth.

EMPLOYEE RELATIONS

The Office of Employee Relations coordinated the lay-offs of 10 employees and the reassignment of 27 employees, the result of federal

cutbacks in fiscal year 1981. It spent the latter part of the fiscal year preparing for projected layoffs in fiscal year 1982.

FISCAL OFFICE

In addition to providing accounting services for \$130 million in state and federal funds, the Fiscal Office oversees the operations of the Payroll and Purchasing Units. During fiscal year 1981, the Fiscal Office met its goal of reimbursing purchase-service providers on the timely payment system within seven working days. It processed 32,000 invoices, including payments for 255 consultant contracts and 95 purchase-of-service contracts.

PROGRAM EVALUATION

The Division of Program Evaluation completed its evaluation of the outcome of the Drunken Driving — Phase II Program. The findings have helped the Division of Alcoholism to identify the strengths and weaknesses of the program. The evaluation stimulated broad discussion within the Department on how to use Phase II money more effectively, either on a different method of treatment or on a less intractable population. As

a direct result of the evaluation, the Division of Alcoholism put out a request for proposal (RFP) for dramatically different approaches to helping this population, with some of the current resources to be redirected to these innovative designs.

DIVISION OF CENTRAL SERVICES

Central Services consists of three units that provide Department-wide services: Personnel, Manpower/Training, and Production. Major accomplishments of the Division included:

• Completion of a Department-

wide analysis of employment of minorities in Public Health positions. Results were converted into operational goals for Public Health Divisions.

• Incorporation of newly acquired planning and training skills in Motivational Dynamics to design and hold the Department's first inhouse supervisory training course.

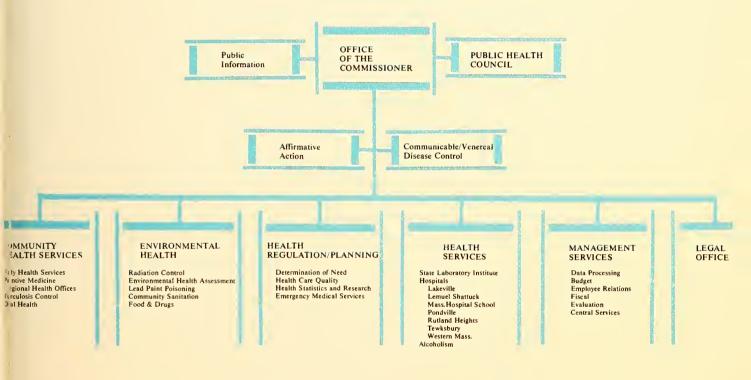


EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1980 - JUNE 30, 1981

	STATE	FEDERAL	TOTAL
COMMISSIONER'S OFFICE	\$ 475,611	\$ 112,807	\$ 588,418
MANAGEMENT SERVICES	2,551,486	397,693	2,949,179
LEGAL OFFICE	158,409	67,417	225,826
Governor's Task Force	46,000		46,000
Sub Total	3,231,506	577,917	3,809,423
COMMUNICABLE AND			
VENEREAL DISEASES	2,437,945	689,659	3,127,604
Sub Total	2,437,945	689,659	3,127,604
COMMUNITY HEALTH SERVICES			
Family Health Services	5,932,828	22,173,167	28,105,995
Preventive Medicine	507,808	676,433	1,184,241
Tuberculosis Control	2,934,479	24,100	2,958,579
Local Health	446,898	895,936	1,342,834
Dental Health	53,755	169,074	222,829
Sub Total	9,857,768	23,938,710	33,814,478
ENVIRONMENTAL HEALTH			
Lead Paint Poisoning	595,270	1,503	596,773
Radiation Control	278,074	18,315	296,389
Consumer Products	1,673,746	8,513	1,682,259
Sub Total	2,547,090	28,331	2,575,421
HEALTH PLANNING & REGULATION			
Health Planning	303,585	670,821	74,406
Health Statistics	567,956	143,741	711,697
Determination of Need	418,998	12,922	431,920
Emergency Medical Services	266,479		266,479
Health Care Quality	3,350,113	523,527	3,873,640
Sub Total	4,907,131	1,351,011	6,258,142
HEALTH SERVICES			
Alcoholism Program	16,258,756	4,493,311	20,752,067
State Laboratory Institute Hospitals	4,149,327	341,038	4,490,365
Lakeville Hospital	7,032,862	_	7,032,962
Lemuel Shattuck Hospital	15,388,253	_	15,388,253
Mass. Hospital School	5,936,774	_	5,936,774
Pondville Hospital	6,179,084	_	6,179,084
Rutland Heights Hospital	5,431,354	_	5,431,354
Tewksbury Hospital	15,621,057	_	15,621,057
Western Mass. Hospital	5,039,467		5,039,467
Sub Total	81,036,934	4,834,349	85,871,283
TOTAL	\$104,036,374	\$31,419,977	\$135,456,351

EXECUTIVE OFFICE OF HUMAN SERVICES

DEPARTMENT OF PUBLIC HEALTH



THE COMMO WEALTH OF MASSACHUSETTS

Edward J. King, Governor

EXECUTIVE OFFICE OF HUMAN SERVICES William T. Hogan, Jr., Secretary

DEPARTMENT OF PUBLIC HEALTH Alfred L. Frechette, M.D., Commissioner



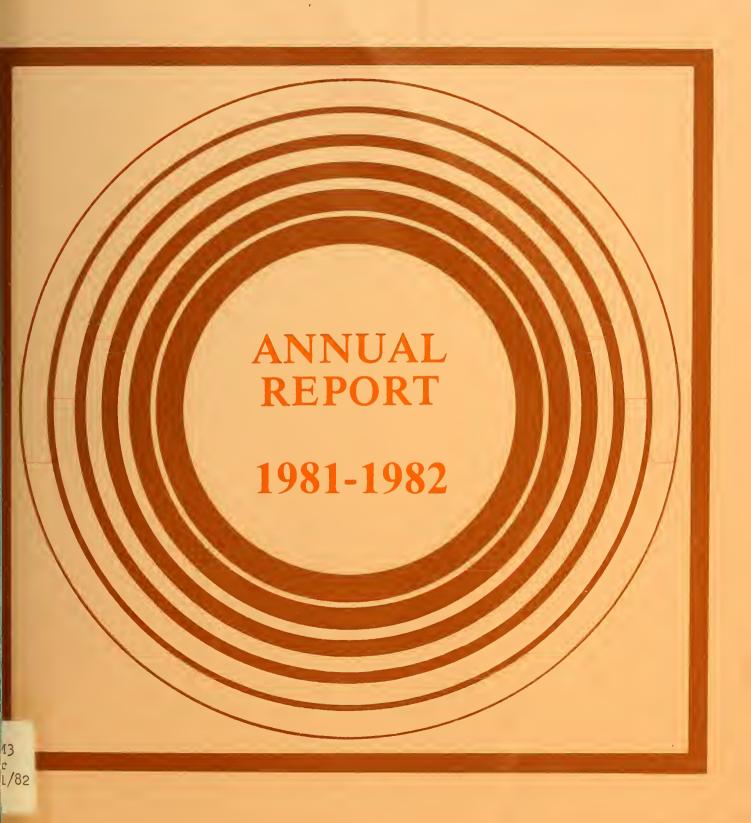
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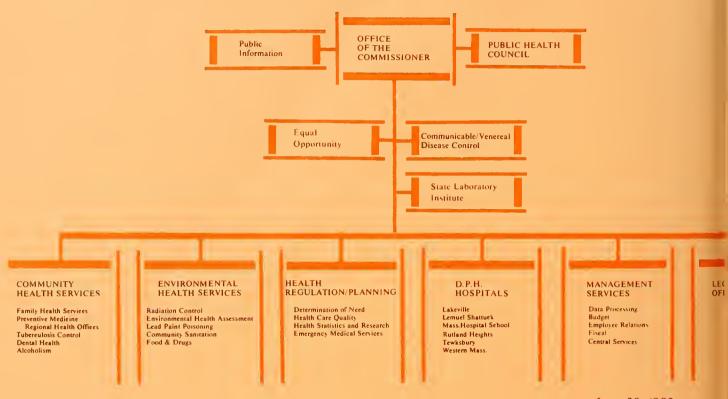
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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



EXECUTIVE OFFICE OF HUMAN SERVICES

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



June 30, 1982

Alfred L. Frechette, M.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

PUBLIC HEALTH COUNCIL.

1980 - 1983
1979 - 1984
1979 - 1985
1981 - 1984
1980 - 1986
1981 - 1987
1981 - 1987
1982 - 1988

Barbara Corcoran, Secretary

Pearl K. Russo, Editor Roger M. Davenport, Art Director

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FROM THE OFFICE OF THE COMMISSIONER

During the fiscal year that ended on June 30, 1982, the Department of Public Health experienced massive cuts in both state and federal funds, which necessitated a 12 percent reduction in personnel. The tight budgetary situation impelled the Department to target its reduced funds to programs in the prevention of avoidable illness and death, in providing special public health services to sections of the population in need, such as handicapped children and alcoholics, and in setting standards for other providers.

The year was marked by the transition from categorical to block grant funding of a number of public health programs. The change to block grants increased the responsibility of the Department for defining, planning, implementing and monitoring service areas previously under the close supervision of the federal government. The diminution in federal oversight and control also increased public demand for accountability and for the compilation of data at the state level.

The Department worked to keep indispensable programs and to divest itself of services and facilities that could be operated more efficiently by private providers. The sale of the Pondville Hospital in January 1982 allowed the Department to give greater attention to its six remaining public health hospitals, which have traditionally provided services not available in the private sector. In the past year, all the hospitals continued their broad range of largely chronic and rehabilitative services and instituted several innovative programs.

Lakeville Hospital, with St. Luke's Hospital in Middle-borough and Morton Hospital in Taunton, formed a hospital consortium to explore how the three institutions can jointly meet the health needs of the southeastern region. The Lemuel Shattuck Hospital, which has been redefining its responsibility, completed plans to open a psychiatric unit to absorb severely ill patients from

the Bay Cove Mental Health Center, operated by the Department of Mental Health. The Massachusetts Hospital School was able to expand its services to physically handicapped children by building a swimming pool/gymnasium complex. The facility, and other programs, may well serve as a magnet for handicapped children from across the state. Tewksbury Hospital continued to provide efficient, high quality long-term care for elderly persons on a par with, or better than, that in the private nursing home sector. Western Massachusetts Hospital has made an outstanding contribution through its Coma Unit, which has received national notice

Through the Division of Preventive Medicine, the Department has strengthened its commitment to disease prevention and health promotion. The Division carried out its first statewide health interview survey, which profiled the health-related habits of adult Massachusetts residents, 16 years of age or older. By determining the prevalence of risk factors for serious illness, the Department is in a better position to determine where to allocate its resources for primary disease prevention. Another important risk-reduction program was a pilot fitness project for the Fall River Fire Department, funded by the Department. As a result of the initial successes of the program, the Department sponsored a series of workshops throughout the state to encourage fire departments to develop fitness programs for their employees.

Mindful of its responsibility to respond to the needs of local boards of health, the Department prepared a Guidebook for Massachusetts Boards of Health, a comprehensive, practical reference of the responsibilities of local boards of health in delivering public health services. The Guide was the result of a lengthy collaborative effort of many health professionals both within and outside the Department.

In January 1982, the Department's statewide Cancer Registry began operations. Hospitals in Massachusetts are now required to report all newly diagnosed cases of cancer to the Cancer Registry within six months of the date of diagnosis. With the data gathered and statistically sum-

marized by the Registry, the Department will be able to identify areas of the state where incidence seems to be high.

As part of a two-year effort to reduce ineffective and unnecessary regulation, the Department extended its "survey-by-exception" program to all nursing homes in the state. Under the program, the Department reduced the intensity of inspections of nursing homes that have consistently provided good quality of care.

Using new approaches to the growing problem of alcoholism, the Department's Division of Alcoholism launched a statewide public education campaign on television and radio on the subject of women and alcohol during the month of February. To help prevent teenagers from getting into trouble with alcohol during the prom season, the Division, in cooperation with other organizations concerned about the problem, carried out a television and radio campaign with the theme. "Friends Don't Let Friends Drive Drunk.

In the face of the buildup of nuclear weapons throughout the world, the Department, following the basic concept of public health

— the prevention of the occurrence of disease and injury — took the position that prevention is essential to wipe out the "last epidemic of nuclear war." The Department embarked on a program of education to inform the people of the Commonwealth of the unimagineable medical, social, and economic consequences of a nuclear war. The first step has been the publication and wide distribution of the Department's brochure, "Nuclear Weapons: A Public Health Concern."

This 68th Annual Report is a brief accounting of the activities of the Department of Public Health during a year of difficult decisions, but of continuing progress in providing health care services of high quality to the people of the Commonwealth.

agred L. Freeletle

Alfred L. Frechette, M.D., M.P.H. Commissioner

^{*}In 1914, the Legislature passed an act dissolving the Massachusetts Board of Health and creating the State Department of Public Health

STATE LABORATORY INSTITUTE

The State Laboratory Institute is the central facility of the Department that is dedicated to the scientific, technical, and laboratory surveillance operations required for the diagnosis and control of diseases caused by infectious, metabolic, and toxic agents. The Institute carries out its activities through four technical laboratory divisions: Biologics, General Diagnostic, Newborn Screening, and Food and Drugs. The Laboratories annually produce more than one million doses of vaccines and serums, and perform a variety of tests on more than one million specimens for clinical purposes (Table 1). In addition to providing consultation to health workers throughout Massachusetts, staff of the Institute pursue challenging research goals.

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories maintained its traditional ability to protect the access of residents of the Commonwealth to serums and vaccines of highest effectiveness and lowest reactivity. Safety and benefits of the pertussis (whooping cough) vaccine component of the diphtheria-tetanus-pertussis children's vaccine elsewhere in the country and the world have been under attack because authorities thought that reactions to their vaccine might outweigh benefits. In contrast, the Massachusetts vaccine, made and distributed locally by the Biologic Laboratories (400,000 doses per year), has appeared to be well tolerated. Serious reactions have been avoided and public confidence maintained in using the vaccine; thus the disease pertussis remains in abeyance.

Human blood by-products

Table 1.
Output of Services
State Laboratory Institute
July 1, 1981 - June 30, 1982.

	Test or	Specimens or
Laboratories	Unit Doses	Clients
Biologics		
Blood derivatives	136,400	136,400
Vaccines	1,122,500	1,122,500
Experimental and research		
products	11,200	11,200
Newborn Screening		
Hypothyroidism (T4)	161,132	161,132
PKU and related disorders	106,744	(106,744)*
General Diagnostic		
Bacteriology	160,878	160,878
Virology	35,414	14,175
Serology and parasitology	169,432	145,005
Food and Drugs		
Suspect food	38,180	12,508
Controlled substances	139,994	73,652
Product quality	1,027	1,027
Polychlorinated biphenyls	36	36
Total	2,082,937	1,838,513

have been developed to cover special needs of children who have diminished resistance to infections that could be lifethreatening. Production of the special varicella-zoster immune globulin, which was developed last year, has been stabilized to meet needs in Massachusetts, with surplus for other states available for distribution through Red Cross Blood Centers. This year, several other special immune globulins have been developed for testing; an intravenous formulation has also been introduced to allow delivery of more effective volumes of the antibodies. The new products will be directed against cytomegalovirus and several encapsulated bacteria that cause virulent disseminated infections.

DIAGNOSTIC LABORATORIES

Bacteriology Laboratory

The Bacteriology Laboratory, in fiscal year 1982, provided exceptional service in identifying salmonella species implicated in an unprecedented number of persons who had been infected by food and food products. Nearly 40 percent of over 11,000 enteric specimens yielded a pathogenic organism. Work output increased by 22 percent over the previous year despite significant loss of staff, the result of budget cuts.

The Throat Culture Program processed 91,348 specimens, of which 20,205 (22.1 percent) were positive for Group A streptococci, an increase of 2.2 percent over the positivity rate of the previous year. A diagnosis of strep throat. if treated promptly, can prevent rheumatic fever. The Gonorrhea Control Program reported a decrease in the volume of cultures from 63,216 in fiscal year 1981 to 53,554 in fiscal year 1982. Of these cultures, 3,002 (5.6 percent) were positive. The penicillin resistant strain was isolated 54 times.

A small number of tularemia isolations were made again this year, an indication that the disease remains endemic in the Cape Cod-Islands area. More than 1,000 fungal cultures were made, and nearly 3 000 unusual microbiologic specimens referred from other laboratories were analyzed. Many of these specimens were involved in hospital-acquired infections that are of major concern to infectioncontrol officers. The change in volume of the different kinds of specimens received appears in Table 2.



Table 2.
Summary of Number and
Kinds of Specimens Examined by
Bacteriology Laboratory
July 1, 1981 - June 30, 1982.

Specimens	Number	Positives
Enteric pathogens	11,411	4,427
Gonorrhea	53,688	3,002
Mycology	1,061	157
Throat cultures	91,348	20,205
Reference/Special	2,971	(2,971)*
Other miscellaneous	399	(399)*
Total	160,878	_

^{*}These specimens have been determined to be positive before they are sent to the State Laboratory Institute for confirmation and special testing.

Virology Laboratory

The Virology Laboratory performed 35,414 examinations on 14,175 specimens. Included are 1,172 pools of mosquitoes, all of which were found to lack eastern encephalitis virus. Fourteen isolates of influenza were characterized as type A or B; this information was used to guide immunization programs. An outbreak of mumps was identified as occurring in recipients of a commercial mumps vaccine that must have been subpotent or deteriorated when administered 10 years earlier.

Serology Laboratory

The Dr. William Hinton Serology Laboratory found more than

10,000 presumptive positives among approximately 150,000 tests for syphilis. Changes in the selectivity of specimens submitted required greater attention to confirmatory tests. Many requests were received for the diagnosis of toxoplasmosis, another frequently overlooked disease capable of causing serious illness, especially in newborns. Serologic tests identified approximately 100 active or acute infections among 2,000 persons screened.

Since 1961, when rabies was first found in local bats, increasing numbers of bats have been submitted to the Laboratory each year. Of the 694 animals submitted for examination in the Rabies Program in fiscal year 1982, 123

were bats, 11 of which were positive. The frequency of rabies in bats was 9 percent, approximately the same rate as in the previous year. One fox was found to be positive, the first such occurrence since 1940.

Probably the most important contribution made by the Rabies Program was the direct, diagnostic emergency service available at all times to determine whether postexposure rabies immunization was essential, or whether it was safe to forego such treatment.

Laboratory Improvement Program

The Laboratory Improvement Program was successful in obtaining certification to give continuing education credits. Five formal training courses in diagnostic methodology were held at the Institute. Private laboratories were approved for prenatal syphilis serology and premarital rubella serology. Laboratory training and consultation, principally in mycobacteriology, included 65 site visits.

NEWBORN SCREENING

The Newborn Screening Division screens all newborns from Massachusetts and other New England states for hypothyroidism and metabolic disorders that are detectable by the program, and that can be rendered harmless by early treatment.

Hypothyroidism Screening

The Hypothyroidism Screening Program screened 161,132 blood specimens for congenital hypothyroidism during fiscal year 1982. Of these specimens, 76,423 came from Massachusetts, and 84,709 from four other New England states (Table 3). Of the 32 infants identified as hypothyroid, only one might have been diagnosed clinically; thus, without the screening program, the diagnosis would have been missed in the other 31 infants. All the infants received early thyroid replacement treatment expected to prevent a lifetime of mental retardation.

Metabolic Disorders Screening

Screening of newborn blood specimens for phenylketonuria (PKU) continued to be the mainstay of the program, as it has been since the inception of the program in 1962. The program tested for other inborn errors of metabolism and continued to test for PKU and three other metabolic disorders for the States of Maine and Rhode Island (Table 4). During fiscal year 1982, the program identified 18 infants for early treatment—13 for PKU, four for galactosemia, and one for maple syrup urine disease.

Operation of the Newborn Screening Program on a regional basis continued to be cost effective; cost sharing has enabled high quality service to be maintained. The large volume of tests has also permitted quality-control measures based upon detection of enough positives to maintain expertise and alertness.

Table 3.

Newborn Screening Laboratories
Hypothyroidism Screening Program
July 1, 1981 - June 30, 1982.

State	No. Screened	No. Hypothyroid
Connecticut	40,107	11
Maine	17,079	3
Massachusetts	76,423	13
New Hampshire	14,281	3
Rhode Island	13,242	2
Total	161,132	32

Table 4.

Newborn Screening Laboratories

Metabolic Disorders Program

July 1, 1981 - June 30, 1982.

	No. Positive								
State	No. Screened	PKU*	PKU* Galactosemia		Homocystinuria				
Maine	17,079	1	2	0	0				
Massachusetts	76,423	12	2	1	0				
Rhode Island	13,242	0	0	0	0				
Total	106,744	13	4	1	0				

Food and Drugs Laboratories

In addition to the main Food and Drugs Laboratory at the State Laboratory Institute in the Jamaica Plain section of Boston, the laboratory in Amherst continued in operation to make prompt service available statewide (Table 5). The laboratories provided services to the following agencies:

- Law Enforcement Agencies — Demands for analysis of drugs submitted in fiscal year 1982 were approximately as great as in the previous year. Laboratory personnel performed 139,994 tests on 73,652 samples of controlled substances. Identification of an illicit substance was confirmed in approximately three-quarters of the samples. Marijuana accounted for the majority of the samples; however, cocaine and heroin each accounted for more than 4,000 confirmations. A major accomplishment of the year was a reduction in turn-around time for analyses from an average of 55 days to an average of three days (13-day maximum). The improvement corrected the problem of dismissed court cases previously caused by delayed evidence.
- State Purchasing Agent and State Department of Education
 Staff examined 1,012 samples for evaluation of bid samples before awarding contracts, and for quality assurance of delivered products, including school lunches
- Environmental Health, Department of Public Health In support of health risk assessment, the laboratories have been developing a capability for accurate measurement of polychlorinated biphenyls and pesticides that can enter the food chain. The Food and Drugs Laboratory initiated an extensive interchange with the federal Food and Drug Laboratories and other state laboratories for purposes of standardization.

Table 5.
Specimens Received by Food and Drugs
Laboratories
July 1, 1981 - June 30, 1982.

Category	No. of Specimens
Food safety	12,508
Forensic analysis	73,652
Summer school programs	455
State purchasing agent	572
Polychlorinated biphenyls	36
Total	87,223



• Division of Food and Drugs (Regulatory and Inspection Officers) and Local Health Officers — Routine laboratory-based surveillance covered food activities that have an exceptional potential for transmission of disease. All 39 milk-testing laboratories in the state were certified on the basis of regular bacteriologic examinations, as mandated by law. Other food products were submitted for analysis on the basis of suspicious gross characteristics or circumstances.

Research Program Highlights

• Cytomegalovirus Immune Globulin — A clinical study was begun in renal transplant patients who may lose the transplanted kidney or die of disseminated cytomegalovirus infection if preventives such as the globulin are not developed.

- Hepatitis Studies were carried out to determine risk factors present in serum of carriers that can predict the relative infectivity of accidental inoculations such as those often sustained by medical workers. Other studies have defined the most costeffective methods for screening to determine immune status. The largest study tested the ability of the new hepatitis B vaccine, as compared to a placebo, to induce immunity in hospital workers.
- Newborn Screening Program

 The program carried out an internationally recognized study proving that, even though detection by screening of congenital hypothyroidism may not be completed until several weeks after birth, it is still early enough to prevent the severe retardation that would otherwise begin to appear in the first year of life.

COMMUNICABLE/ VENEREAL DISEASE CONTROL

The Division of Communicable and Venereal Diseases carries out health protection activities that are the direct responsibility of state government. These encompass health surveillance and disease control to guard the health of the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and the assessment of threats to the population.

COMMUNICABLE DISEASE CONTROL

The statewide immunization programs of the Department, which expanded as new vaccines became available, continued to record progress in controlling measles, mumps and rubella:

- Measles Reported cases dropped from 19,512 cases in 1965 to 59 cases in calendar year 1981, a decrease of over 99 percent.
- Mumps Reported cases dropped from 9,024 cases in 1968 to 91 cases in 1981, a decrease of 99 percent.
- Rubella Reported cases dropped from 1,461 cases in 1969 to 23 cases in 1981, a decrease of 98 percent.

These programs not only prevented illness and death but saved the Commonwealth approximately \$18 million in actual costs for medical care and institutionalization of patients.

Massachusetts, which has been on a maintenance immunization program against polio since polio vaccine became available, has had only one reported case of polio since 1968. A total of 430,572 doses of trivalent Sabin oral polio vaccine were administered in 1981 by local boards of health, private

physicians, clinics and hospitals. The annual immunization survey of children (63,964) entering kindergarten in September 1981 showed more than 98 percent had already received three or more doses of polio vaccine. The percentages of these children immunized against polio and the six other immunizable diseases showed impressive increases over 1974 (Table 6).

During the 1981-1982 school year, the Division of Communicable and Venereal Diseases also surveyed more than 96,000 school health records of new children entering grades one to 12 in both public and private schools. Immunization levels for these children were: DTP, 94.45 percent; polio, 94.27 percent; measles, 96.33 percent; mumps, 90.89 percent; and rubella, 92.10 percent. The Division continued its survey of children (62,430) in day care centers and found substantial increases over the previous years (Table 7).

		Table 6. Percentage of Immunized Children Entering Kindergarten 1974 - 1982.							Percent Increase Over		
	1973-74 1974-75 1975-76 1976-77 1977-78 1978-79 1979-80 1980-81 1981-82					1973-74					
Diphtheria Tetanus Whooping Cough	DTP	88.6	93.51	95.04	96.21	95.82	96.99	97.57	98.10	97.88	10.47
Polio Measles Mumps Rubella		86.2 90.3 59.3 62.0	92.04 93.53 69.19 70.41	94.10 94.60 78.00 78.51	95.84 96.21 84.56 84.55	94.25 98.32 89.83 90.04	97.50 98.60 92.79 93.32	97.95 98.86 98.69 98.67	98.13 99.09 99.06 99.06	97.71 98.82 98.79 98.79	13.35 9.44 66.59 59.34

Table 7. Percentage of Immunized Children in Day Care Centers 1975 - 1982.							Percent Increase Over		
		1975-76	1976-77*	1977-78	1978-79	1979-80	1980-81	1981-82	1975-76
Diphtheria Tetanus Whooping Cough	DTP	86.73	_	90.99	94.23	95.60	95.94	96.29	11.02
Polio		85.71	_	89.83	94.91	96.13	96.70	96.87	13.02
Measles		89.31	_	93.22	95.82	96.79	97.54	97.83	9.54
Mumps		77.27	—	85.93	92.78	96.28	97.29	97.79	26.56
Rubella		76.00	_	85.36	92.46	96.27	97.31	97.77	28.64

Rubella in Massachusetts has become a disease of adults as a result of the improvement in the rubella immunization level of children. Of the cases reported in 1974, 20 percent were of adults as compared to 32 percent in 1981. This trend will probably continue since more than 91 percent of children under 18 years of age are protected with the vaccine. The Department has, therefore, continued the rubella program for adults, which was started in 1979 and targeted at four main groups: students in institutions of higher learning, persons 30 years of age and younger who provide patient care in hospitals and other health facilities, students and staff in schools of nursing, and patients in obstetrical-gynecological and family planning clinics.

During the influenza season, virus isolates of the familiar strains of A/Brazil, A/Bangkok, and B/Singapore were confirmed by the State Laboratory Institute. Influenza was observed in pockets throughout the state rather than in widespread outbreaks in a community. Severe budgetary constraints allowed for the purchase of only 126,000 doses of vaccine; each board of health, therefore, received 75 percent of the amount used in the previous year. As in the past year, the influenza vaccine

was well tolerated, and no reports of adverse reactions were received.

Despite the availability of the pneumococcal pneumonia vaccine, pneumonia morbidity and mortality among high-risk Massachusetts residents continued to be a growing concern. The Division has, therefore, again recommended simultaneous administration of influenza and pneumonia vaccines in different sites. Recent findings have indicated that protection from the latter vaccine may last at least for five years and subsequent pneumonia immunizations should not be administered during that period of time. Immunization providers and clinics have been following this advice.

The reported incidence of babesiosis, a malaria-like illness for which no effective chemotherapy is now available, decreased in calendar year 1981. Three identifiable cases were reported on Nantucket and one on Martha's Vineyard, where a focus of the disease exists.

VENEREAL DISEASE CONTROL

In accordance with national standards, the Division of Com-

municable and Venereal Diseases concerns itself with the 16 sexually transmissable diseases. Of these, seven — gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, nongonococcal urethritis, and scabies remained epidemic in Massachusetts and in the nation. Massachusetts had about one and one-half cases of male gonorrhea to one case of nongonococcal urethritis, which may eventually become the number one venereal disease in the United States. Scabies, however, remained on the downward curve of the epidemic cycle. Because of the increase in the cases of nongonococcal urethritis and of genital herpes (also important for its oncogenic potential), the Division will ask the Public Health Council to include these two diseases in the Department's list of reportable diseases. Herpes type 2, for which there is still no specific treatment, made up 10 percent of the Division's clinic load.

The 10,314 cases of gonorrhea reported in calendar year 1981 represented a decrease of 4.5 percent from the previous year, but constituted a 22.2 percent increase over the 8,026 cases reported in 1970 (Fig. 1). Gonorrhea continued to be the number one communicable disease in the state.

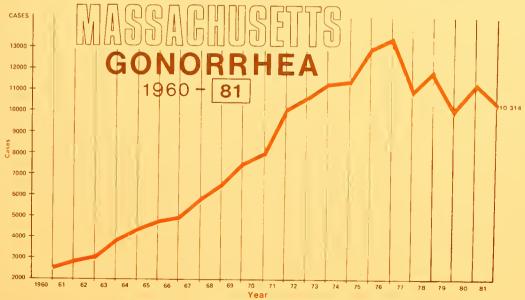
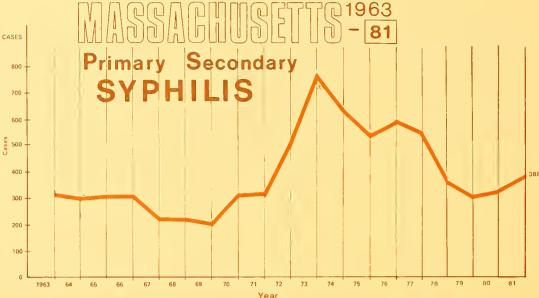


Figure 1. Cases of Gonorrhea in Massachusetts, 1960 - 1981.



Year Figure 2. Cases of Primary and Secondary Syphilis in Massachusetts, 1963 - 1981.

For calendar year 1981, the reported number of cases of all stages of syphilis was 975, an increase of 7.8 percent over the 904 cases in the previous year. Cases of primary and secondary syphilis accounted for nearly 40 percent of the cases (Fig. 2). An important factor in the Division's efforts to control the disease was the syphilis interview-contacttracing procedure, used by the Division's staff in the 18 cooperating state venereal disease clinics with 96 percent of the 636 early syphilis cases reported to the Department of Public Health. A total of 1,313 sexual partners of infected patients were found through the interview process.

The Department's program for the screening of asymptomatic women for gonorrhea control continued with the renewal of a federal grant for \$298,245 for 1982, a reduction of about \$190,000 from the previous year. During the calendar year 1981, the program examined 131,838 women by culture at approximately 100 participating facilities. Of the women examined, 4,868, or 3.6 percent, approximately the same percentage as in the previous year, were found to have the disease.

The grant also allowed the Division to continue its program for the diagnosis, treatment, and epidemiology of gonococcal pelvic inflammatory disease (PID), which have become important aspects of gonorrhea control. A survey of 35 Massachusetts hospitals indicated that the gonococcus was the causative agent in approximately 18 percent of the PID cases diagnosed. Protocols with standards for the diagnosis of gonococcal PID, which had been established by the Division, continued in over 30 hospitals located in areas of high incidence. Measures for ensuring the rapid epidemiologic follow-up of contacts, many of whom were asymptomatic men, were maintained. During calendar year 1981, 357 cases of gonococcal PID were reported; these represented 11 percent of the 3,262 reported cases of gonorrhea in women.

The incidence of penicillin resistant gonorrhea increased by a dramatic 671 percent during the first six months of 1982, when 54 cases were reported as compared to a previous high of seven cases for the entire year of 1981. The majority of cases, thus far, have been linked to prostitutes and their contacts located in Boston

and adjacent communities. Intensive epidemiological measures have been applied to all cases to prevent the spread of penicillin resistant gonorrhea to other parts of the state.

The 18 cooperating venereal disease clinics in the outpatient departments of general hospitals had 42,581 patient visits for examination and treatment during the fiscal year. The cost, which included diagnosis, laboratory work, and treatment, was approximately \$18.62 per patient visit.

In August 1981, the Division became aware of a problem related to Kaposi's sarcoma. Since then, the Division has been evaluating recommendations for establishing a surveillance program to measure the extent of the problem in Massachusetts.

The Division provided clinical and epidemiological training to 218 medical students from the Boston University and Tufts University Schools of Medicine. Nurses and other interested community health workers also received instruction in venereal disease control.



ENVIRONMENTAL HEALTH SERVICES

The Environmental Health Services Bureau includes the Divisions of Environmental Health Assessment, Radiation Control, Food and Drugs, Community Sanitation, and the Lead Paint Poisoning Prevention Program. Experts in epidemiology, toxicology, environmental hygiene, radiation control, and health standards and criteria respond to, and evaluate, health threats posed by environmental hazards. These include organic chemicals in drinking water, Gonyaulax tamarensis ("Red Tide"), polychlorinated biphenyls (PCBs) and methylmercury in shellfish, elevated levels of oxides of nitrogen from energy plants, and sources of radiation.

ENVIRONMENTAL HEALTH ASSESSMENT

During fiscal year 1982, the Division of Environmental Health Assessment (DEHA) consolidated its activities into four program branches: Health Standards and Evaluation, Environmental Epidemiology, Environmental Toxicology, and Environmental Hygiene. The organization has led to a multidisciplinary approach to the investigation and solution of environmental health problems by bringing in from each DEHA branch the required expertise as needed.

Environmental Epidemiology

Responding to reports of unusual occurrences of diseases thought to be related to environmental factors, the Environmental Epidemiology branch carried out the following studies:

- Woburn A report of a 30year retrospective study on mortality from childhood leukemia was completed. The findings showed no unusual occurrence of leukemia clusters in time or place.
- Fairhaven A cluster of childhood leukemia was reported. The four children involved lived near a playground where they played. Interviews of parents failed to establish any other features in common, including exposures to toxic agents.
- Leominister Although there has been a significant increase in cases of Hodgkin's disease in persons ranging in age from 12 to 66 years, no unusual geographic distribution was found.
- Lowell Following extensive inquiry about the extent of the potential public health problems resulting from toxic wastes located at the site of a former waste-processing and recovery plant, the Department of Public Health and the Department of Environmental Quality Engineering issued a request for a proposal to investigate the health status of area residents and a suitable control population.
- New Bedford DEHA worked with several local groups, including the Acushnet River Estuary Disaster Committee, to formulate epidemiological and clinical studies of area residents. Some persons who ate fish or lobsters caught in the greater New Bedford Harbor have accumulated body burdens of PCBs that exceed the average.

Environmental Toxicology

The Environmental Toxicology branch carried out direct evaluations of persons exposed to toxic materials, such as, PCBs, lead, arsenic and thallium, reviewed risks to the public health from exposure to environmental toxins—pesticides, and other air and waterborne hazards. It conducted the following studies:

- Recombinant DNA The Environmental Toxicology branch reviewed the potential public health problems associated with the newly developing technology of recombinant DNA and convened a Special Governor's Advisory Committee on behalf of the Commissioner of Public Health. The committee reviewed the health issues surrounding DNA technology and drafted legislation to permit its regulation.
- PCBs Based on preliminary findings of elevated blood serum levels of PCBs in persons in the New Bedford area, the Environmental Toxicology branch developed a detailed clinical protocol to study persons exposed to these toxins.
- Childhood Leukemia A review of the toxicological factors that might lead to leukemia in children was carried out after the occurrence of a cluster in Fairhaven. Recommendations for tests to be conducted were made to state environmental investigators.
- Mass Illness of School Children An outbreak of illness, characterized by fainting, abdominal pain, nausea and dizziness, among school children in Templeton was investigated in cooperation with the University of

Massachusetts Medical School, Department of Pharmacy. Investigators concluded that the incident was a mass psychogenic response, not the result of exposure to environmental toxins.

• Thallium, Arsenic, Lead — Reports of persons and animals thought to have been exposed to thallium, arsenic, and lead from a suspected hazardous waste site in Clinton were evaluated. No evidence of thallium or arsenic was found; however, elevated levels of lead in ducks that had died were traced to lead-based paint covering the barn that housed the ducks.

Environmental Hygiene

The Environmental Hygiene branch has responsibility for discovering and assessing new technology, such as, hazardous waste-siting projects, coal gasification projects, shellfish depuration technology, and indoor pollutants that may affect public health. Staff worked with the Pesticide Board and a task force to develop a draft policy on the problem of drift. Personnel also provided air sampling and ventilation measurements for large office buildings, for carbon monoxide in parking garages, and for chlorane vapors in homes.

RADIATION CONTROL

The Radiation Control Program, which is responsible for the protection of public health from all sources of radiation, both ionizing and nonionizing, carried out surveys of diagnostic X-ray units in hospitals, private medical and dental offices, and of nuclear medicine departments, and users of radio isotopes. Surveys were conducted at universities and other facilities that use sources of radiation. Program personnel also surveyed color TV receivers, video display terminals, devices that use lasers, and various consumer products containing radioactive materials.

A great amount of energy was expended in amending the regulations that require the annual registration of all users of ionizing sources of radiation. The registration has been computerized to aid in the scheduling of timely inspections.

A major activity of the program was the extensive environmental surveillance and inspection of fixed nuclear power stations two in Massachusetts and one in Vermont on the Massachusetts border. Personnel visited the sites every two weeks to ensure the proper operation of monitoring equipment. Thermoluminescent dosimeters, placed around each reactor to check data received from the power companies, were replaced quarterly. In addition, program staff participated in fullscale emergency exercises of the emergency-response plans of the three nuclear reactor facilities. Dose assessment, public relations. and advisory information on the response capabilities were ascertained.

Staff of the Radiation Control Program, responsible for responding to radiation accidents and incidents throughout the Commonwealth, served as the principal coordinators of the Nuclear Incident Advisory Team (NIAT) and participated in monthly training sessions. NIAT includes consultants from academic and industrial institutions throughout the state.

The Radiation Control Program maintained responsibility

for approving plans for radiation protection for all facilities involved in construction, alterations, or reconstruction. Surveys for these facilities were conducted after completion of the work. Additionally, personnel served as primary radiation control experts to other state agencies, such as the Departments of Environmental Quality Engineering, Energy, Public Safety, and Transportation, and the Civil Defense Agency.

During fiscal year 1982, the Radiation Control Program, with the assistance of an advisory committee comprised of experts in industry, academia, and government, began the process of adopting regulations for nonionizing radiation. The Radiation Control Program published, for comments, a first draft of the proposed regulations.

The participation of the Radiation Control Program in the National Conference of Radiation Control Program Directors and in the New England Radiological Health Compact permitted the Department to cooperate with the other five New England states in radiation health activities.

COMMUNITY SANITATION

The Division of Community Sanitation is responsible, in part, for monitoring and enforcing compliance with certain sections of the State Sanitary Code in correctional facilities, rodent and nuisance control, inspections of



microwave ovens, and monitoring of fluoridation facilities. The Division also has responsibility for developing regulations for the conduct of physical examinations and the keeping of medical records in correctional facilities.

The Division administered the Department's statutory responsibilities for the development of regulations dealing with minimum standards of fitness for human habitation (housing), farm labor camps, recreational camps for children, and correctional facilities. Departmental involvement in these areas, usually the result of citizens' complaints, increased during the fiscal year, perhaps because of cutbacks of funds to local boards of health, which were unable to carry out their responsibilities for housing and recreational camps. Division staff intervened in more than 200 housing complaints. The Department assumed jurisdiction in 25 cases, five of which went to court.

New updated regulations for recreational camping, which went into effect during the fiscal year, were received positively by the camping industry. A spot check of 53 of the approximately 450 camps in the state revealed that most of them met acceptable standards. The Division cooperated with the Office of the Attorney General in investigations of a New York-based camp that had been accused of consumer fraud.

The semi-annual inspection of the 35 state and county correctional facilities, mandated by law, put a strain on the limited staff of the Division as a result of the addition of correctional beds and severe overcrowding in all facilities. The Division worked with the Department of Correction in bringing legal action against the Deer Island House of Correction (City of Boston) because of the totally inadequate sanitary conditions.

The Division worked closely with the Fluoridation Program of the Division of Dental Health in

monitoring and evaluating fluoridated water supplies in 97 communities to ensure optimal fluoride levels of I.0 parts per million (ppm). Studies were conducted in six communities to determine the financial and engineering feasibility of fluoridating the municipal water supplies.

Two farm labor camps reopened during the year to bring the total number of camps certified by the Division to 36. These camps provided housing for 457 workers. Over 150 microwave ovens were tested at the request of consumers. No problems were noted. Approximately 750 persons received help from the Division in an attempt to solve their sanitation and environmental problems.

Monies received from the Preventive Health and Health Services Block Grant allowed the Division to plan increased activities in rodent control to begin early in the next fiscal year. The funding will pay for the services of a part-time consultant to work with local municipalities, and to monitor and evaluate projects supported by the federal funds.

DIVISION OF FOOD AND DRUGS

The Division of Food and Drugs is the principal consumerprotection agency of state government, in the areas of the safety of foods, drugs, and other consumer products. Its major responsibilities ensure the Commonwealth that:

- Food products and services manufactured or sold within the state are safe and wholesome.
- Drug control and security measures are operative to prevent the illegal diversion of controlled substances.
- Drugs, biological products, medical devices, and cosmetics are safe and properly labeled.
- Hazardous chemicals and injurious pesticides are prop-

- erly classified, labeled, stored and maintained in a manner to prevent injury to the public.
- Bedding, upholstered furniture, and stuffed toys are properly labeled and fit for human use.
- Impounded animals used in animal research receive proper care and humane treatment.

At the beginning of the fiscal year, a 26 percent cut in the budget resulted in a greatly reduced staff, a measure necessitating a reduction in the number of inspections and a reorganization of divisional priorities. The functional supervision of the laboratory component of the Division was transferred to the State Laboratory Institute. As a result of an objective review of the management of the Division by an outside team of consultants, and of the Department's own evaluation, key decisions were made: to determine program priorities on the basis of traditional public health models rather than on the consumer-protection model; and to separate responsibilities of other regulatory jurisdictions, such as, federal agencies, local boards of health, and other state agencies, in an attempt to avoid duplication of services.

During fiscal year 1982, staff of the Division conducted 6,755 field inspections, including seafood establishments, retail food stores, restaurants, bakeries, hazardous substances, food processors, dairy processors, food warehouses, and cold storage plants. Approximately 50 inspection-days were spent on two United States Food and Drug Administration Class I and II recalls of canned salmon and tuna fish. The Division issued 11,956 licenses, permits or certificates of registration as required by applicable statutes.

The Division established an active communications program with the public, industry, the Legislature, the news media, and other interested persons as a first step in making its goals and objec-



tives known to the broadest segment of the population.

LEAD POISONING PREVENTION PROGRAM

The Department's Childhood Lead Poisoning Prevention Program provides screening for children who are at risk, distributes screening samples to health care providers, identifies and works to eliminate lead hazards in the environment, and conducts educational programs for both the medical and lay community on the health hazards of lead. During fiscal year 1982, the laboratory of the program analyzed 104,290 blood specimens for lead or erythrocyte protoporphyrin content. and 1,119 nonblood specimens for lead content. Approximately four percent, or 3,339, of the blood samples showed unacceptable levels of lead, according to guidelines of the Centers for Disease Control (CDC). Thirty-one percent, or 344, of the environmental samples showed unacceptable levels of lead, according to the Massachusetts Regulations for Lead Poisoning Prevention and Control.

Inspectors in the program have been assigned to the Department's Regional Health Offices, two in each office. In fiscal year 1982, they inspected 786 dwellings for lead violations and made 2,247 reinspections to ensure removal of hazards from the children's environment. Over 300 units were brought into compliance. The program also brought 1,163 court actions against landlords to force compliance with the law.

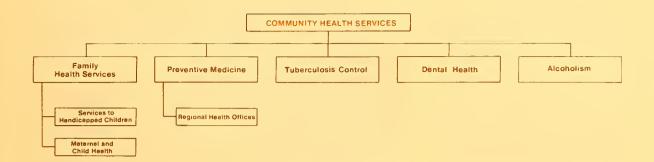
During the year, the Lead Poisoning Prevention Program expanded its operational functions to include a case management system for tracking and coordinating the medical and environmental follow-up of all children with elevated blood levels of lead. An epidemiologist and nurse, who share in the day-to-day operation of the system, have prepared summaries of lead poisoning activities in four selected cities to share with local boards of health and health care providers. A formal educational program for nurses entitled, "An Overview of Lead Paint Poisoning," has been prepared and submitted to the Continuing Education Committee of the Massachusetts Nurses Association.

A data processing system for the rapid entry and access of information on all children screened for lead poisoning and for statistical research became operational in April 1982. The system has laid the basis for more rapid analysis of progress of children, who suffer from lead toxicity, toward recovery.

A crisis-intervention deleading crew to remove lead hazards, as a last resort, began to function in May 1982. For their training, they were assigned to delead a building at the Fernald State School in Waltham, which was to become a day care center for children of employees of the school.

As a result of the change in federal funding from categorical to block grants, three local lead paint poisoning prevention programs in the state were placed under the Maternal and Child Health Block Grant in the Division of Family Health Services. The Division delegated responsibility for the management and monitoring of the lead projects to the Lead Paint Poisoning Prevention Program. The program continued its screening of children in Chelsea who reside near the Mystic-Tobin Bridge, which is being deleaded by the Massachusetts Port Authority.

During the fiscal year, staff of the program conducted 38 educational seminars that were attended by 236 persons. Fifty-two site screenings were held; 908 children were screened at each site.



COMMUNITY HEALTH SERVICES

The Community Health Services Bureau, under the direction of an Assistant Commissioner, consolidates the activities of the divisions and units that provide direct services to the people of the Commonwealth: the Divisions of Family Health Services, Preventive Medicine, Tuberculosis Control, Dental Health, and Alcoholism, and the Regional Health Offices.

FAMILY HEALTH SERVICES

The Division of Family Health Services carries out the Department's programs of community health services for mothers and children, especially those with low incomes or who are at risk for, or suffering from, handicapping conditions. The creation of the Title V Maternal and Child Health Services Block Grant in October 1981 increased the responsibilities of the Division, which are carried out by two sections - Maternal and Child Health and Services to Handicapped Children (SHC). During fiscal year 1982, the Division integrated six block grant programs, reduced program expenditures, and implemented two new programs in perinatal health.

Maternal and Child Health

Four major units of the Division's Maternal and Child Health Services worked to provide mothers and children in underserved neighborhoods with a wide range of preventive health services.

• The efforts of the Perinatal Unit were complemented by the Sudden Infant Death Syndrome (SIDS) Program, which provided postmortem examinations, home visits, and family counseling, referrals and education to the 150 families who had lost an infant to SIDS. The Perinatal Unit also established community-based support services for high-risk infants and families. Ten projects across the state served approximately 1,500 infants and families at risk because of perinatal morbidity, and socioeconomic or psychological factors.

In conjunction with the Division of Preventive Medicine, the Perinatal Unit embarked upon a statewide program to educate and provide diagnostic services to an estimated 150,000 Massachusetts residents who had been exposed to diethylstilbestrol (DES). As the fiscal year was drawing to a close, the Unit was in the process of identifying a number of diagnostic centers to provide services for women who could not afford nor had the insurance to pay for the cost of testing. The Perinatal Unit also continued to administer the premature infant, high-risk for deafness, and the congenital anomaly identification programs, and worked to develop a uniform identification system for high-risk newborns.

• To the School Age Children/ Adolescent Unit were added three adolescent pregnancy projects and the three lead paint poisoning prevention projects, responsibility for which had been delegated to the Lead Paint Poisoning Prevention Program. The Unit provided comprehensive medical and support services to over 1,200 pregnant or parenting teens. In addition, 12,500 adolescents at risk for substance abuse, venereal disease, and pregnancy received counseling, educational, outreach and referral services. Family planning services were offered to adolescents in the greater Lowell area.

The School Age Children/Adolescent Unit maintained the following services: regulating and providing technical assistance to school health programs; administering health screening programs for vision, hearing, and scoliosis; purchasing hearing aids for 400 eligible children; and providing preschool health services through a multidisciplinary team serving 12 towns in the Holyoke-Chicopee area.

- The Primary Care Unit, through its Maternal and Infant Care (MIC) and Children and Youth (C&Y) projects, reached an estimated 20,000 women and children in medically underserved areas.
- The Special Supplemental Food Program for Women, Infants and Children (WIC) is closely related to the MIC and C&Y projects. During the year, WIC provided 30,000 women and children under the age of five, who were determined to be at nutritional risk, with food packages, nutrition counseling, and referrals for health care.

Services to Handicapped Children

The Title V Block Grant added two programs to existing programs in the Services to Handicapped Children's Unit, to prevent and treat handicapping conditions among children. The two programs — Genetics and the Supplemental Security Income for Disabled Children (SSI-DCP) had already been administered by the Division. During the fiscal year 1982, the Genetics Unit made progress in developing its program to provide education, information, and counseling. Genetics clinics were held in each of the Department's public health regions. The SSI-DCP, operated under contract with the Office for Children, officially became a functional unit of the Division. Over the past five years, SSI-DCP offered case management services to over half of the approximately 5,000 severely handicapped children who receive SSI.

- The SHC Clinic Unit instituted a number of policy revisions to achieve cost savings while ensuring continuity of care for children who are most in need of services. The age cut-off was lowered from 21 to 18, and new guidelines for financial eligibility instituted. The availability of additional funds later in the fiscal year allowed the Division to continue to pay 100 percent of the per diem hospital rates for handicapped children not covered by insurance. Other policy revisions reduced the number of children served from over 8,000 to less than 6,000 and required a greater number of families to share the costs of clinic care.
- The Community Services Unit provided a range of specialized support services to multiply handicapped children to allow them to function as independently as possible and to remain in the community with their families. Despite a reduction in funding, the Unit maintained a level of ser-



vice comparable to that of the previous year through an open competitive bidding process. Contracts totaling approximately \$1.9 million were awarded for early intervention, developmental day care, integrated preschool, and training and respite programs.

Research and Demonstration

The Statewide Childhood Injury Prevention Program (SCIPP) entered its third year. Funded by the federal Office of Maternal and Child Health, SCIPP had organized projects targeted toward specific injury risks in young children in 14 communities in the state, in cooperation with both public and private agencies. During the fiscal year, SCIPP published preliminary findings on the extent, nature, and cause of childhood injuries. Evaluation of SCIPP's effectiveness will aid the Division in selecting statewide strategies to reduce the incidence of childhood injuries.

Needs Assessment

Responding to the mandate of the Block Grant, the Division developed a methodologically sophisticated needs assessment to aid in developing open competitive bidding processes for WIC and Primary Care Programs in fiscal year 1983. Health status and poverty indicators were statistically combined to produce a score for each city and town in the Commonwealth; scores were then ranked to determine relative need.

The assessment revealed that the total need for services far outstripped the Division's resources to provide them. The Division can expect to provide access to pediatric and prenatal care to no more than 25,000 of the 140,000 poor and near poor women and children living in the 115 Massachusetts communities identified as having the greatest need for primary maternal and child health care services.

PREVENTIVE MEDICINE

The Division of Preventive Medicine was created in 1977 to improve the health status of the people of the Commonwealth through a reduction in risk factors, such as cigarette smoking, poor nutrition, physical inactivity, unsafe environments, and stress.

Program Administration

As the lead agency responsible for the administration of the Preventive Health and Health Services Block Grant, the Division of Preventive Medicine worked cooperatively with departmental program directors and the Task Force on Prevention to ensure a smooth transition from categorical to block grant funding of eight preventive health programs.

Although overall funds were reduced by approximately 25 percent across all program areas, every effort was made to maintain existing services. The Division published a revised *Contractor's Handbook*, organized regional training workshops in development of proposals and skills in grant writing, and effected a consistent process for all requests for proposals.

Research and Evaluation

After publication of the findings of the Division's Statewide Health Interview Survey in the April 29, 1982, issue of the New England Journal of Medicine, Division staff prepared an analysis of smoking trends among the adult population, and of the use of dental health care. Reports on women's health issues, professional and career status, and their relation to major risk factors were in preparation at the end of the fiscal year.

An extensive evaluation of the Division's school-based smoking and alcohol abuse prevention projects, supported by Health Education/Risk Reduction funds from the Centers for Disease Control, indicated increased knowledge among participants of the negative health aspects of smoking and drinking. Other research activities included a comparison of hypnosis and group intervention as strategies in smoking cessation, and the compilation of data on smoking patterns among Massachusetts adolescents.

Preventive Health Services

The Division supported programs that seek to identify, serve, and follow-up specific populations and occupational groups for whom the risks of chronic disease and disability are great. Four specific programs were operating in fiscal year 1982:

• The Public Employee Health Project, called Lifestyle, a comprehensive health promotion program at the worksite, reached approximately 190 employees of the Departments of Public Health and Public Welfare. Activities included a medical/physical assessment of health risks, lifestyle counseling, educational presentations and workshops, and exercise classes. Preliminary data showed statistically significant changes in specific cardiovascular risk factors. By the end of the fiscal year, plans to offer the program in fiscal year 1983 to the state employees working in the Government Center area were being completed.

provide services included community health centers, hospitals, visiting nurse associations, and local boards of health. Screening was carried out at both worksites and other locations in the communities. During fiscal year 1982, the projects screened 10,861 residents of the Commonwealth. Data indicated that 20.6 percent of the population screened had elevated blood pressures at the initial reading. The projects reached more minorities and persons with less than a high school education than they had in pre-



- Center for Firefighter Fitness, developed in cooperation with Bridgewater State College, entered its second year of operation with an expanded mandate and increased support. The Center provided education, training, and technical assistance to fire department personnel in implementing fitness programs based in the fire department. Results of the first months of activity indicated that intervention at the worksite could significantly improve levels of fitness of firefighters and thus reduce disability due to heart disease.
- Comprehensive Community Hypertension Control Programs were functioning in 13 communities. Agencies funded by the Division of Preventive Medicine to

- vious years: 26.3 percent were nonwhites, and over one-third of all persons screened had less than 12 years of schooling.
- Women's Health Services were expanded as a result of the Preventive Health and Health Services Block Grant, which provided funding to community-based programs that offer counseling, referral, advocacy and community-based education for victims of rape. The Division also began planning for the initiation of a comprehensive health education program for women in the state's correctional institutions.

Health Promotion Services

The Division's Child Passenger Safety Resource Center played a major role in raising awareness of the serious health risks to children riding unrestrained in motor vehicles (Fig. 3), and was instrumental in securing passage of the Massachusetts Child Passenger Safety Law, which went into effect on January 1, 1982. The Resource Center also trained over 1,000 health professionals, law enforcement officials, and persons in community organizations in the implementation of the law.

The Massachusetts Nutrition Resource Center continued to offer free information on nutrition and referrals to consumers and health professionals through a hotline and mail service. During the fiscal year, consumer/provider contacts through mail inquiries increased by 168 percent over the previous year; contacts through the Nutrition Hotline increased by over 20 percent.

The Division, in conjunction with the Division of Family Health Services, began a major public health campaign on DES. The Division's activities included the widespread distribution of educational materials, feature articles and posters to libraries, women's organizations, and health care providers throughout the state, and radio and television announcements. A speakers' bureau was organized to ensure expert information to local communities. In conjunction with the Sidney Farber Cancer Institute. the Division made available to Massachusetts residents, through a free hotline, referrals to local diagnostic services, as well as educational material and information.

The Division worked actively, in cooperation with national efforts, to raise public awareness of high blood pressure control during National Awareness Month in May. The Division produced posters and television spots featuring Marvelous Marvin Hagler, the boxing champion,

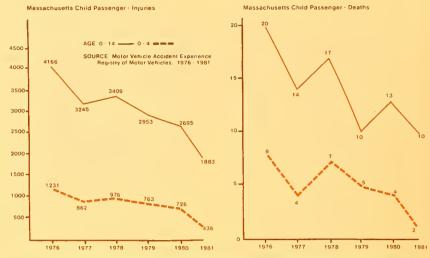
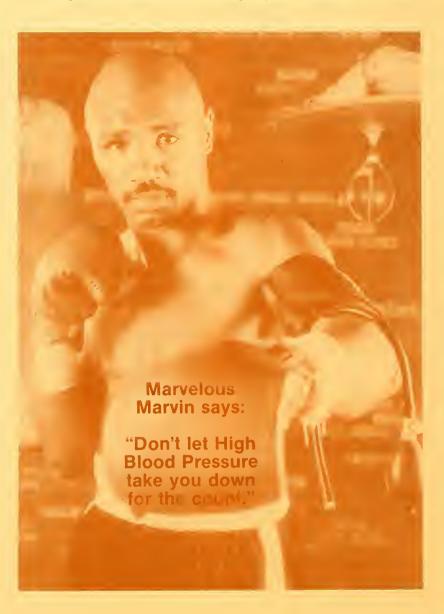


Figure 3. Massachusetts Child Passenger Injuries and Deaths, 1976 - 1981.



that emphasized the need for adequate treatment and continuing care for hypertension.

New educational approaches to the problems of teenage smoking and smoking cessation were developed. Radio spots featuring major performers popular with young people were distributed to all local radio stations in Massachusetts. The campaign was carried out with the cooperation of the federal Office of Smoking and Health. An innovative smoking cessation program, "The Smoking Break," was televised by a major Boston station and broadcast throughout central and eastern Massachusetts. Over 5,000 viewers formally registered for the program, which reached approximately 70,000 smokers. Plans have been completed to replicate the program in western Massachusetts in fiscal year 1983.

TUBERCULOSIS CONTROL

The Division of Tuberculosis Control has major responsibility for the surveillance of tuberculosis in the Commonwealth, as well as for the development of programs to control and eradicate the disease.

During fiscal year 1982, the control of tuberculosis in Massachusetts suffered its most serious setback in more than 25 years. The tuberculosis case rate increased by almost 12 percent, the first such increase since 1954 and the largest increase since 1915. The number of newly diagnosed cases reported by physicians in calendar year 1981 totaled 504, an increase of 52 over the 452 new cases reported in 1980 (Fig. 4). The 1980 case rate also showed an increase from 7.8 per 100,000 population to 8.7. Reasons for the increase have not been fully determined, although a portion of the increase has been attributed to the large number of immigrants who have entered Massachusetts from countries with a high prevalence of tuberculosis. A large part of the increase, however, occurred in the resident population.

Despite severe reductions in funding and personnel at the federal, state, and local levels, which resulted in the elimination of 42 percent of the Division's positions and in a 20 percent reduction of total appropriations, the Division initiated new activities and strengthened continuing programs to prevent further increases in tuberculosis in the Commonwealth. New activities included:

• A complete restructuring of the tuberculosis surveillance system, which defines six Tuberculosis Surveillance Areas (TSA) covering every city and town in the state. A public health nursing advisor has been sent to each TSA to coordinate information among local boards of health, physicians, tuberculosis clinics, and hospitals.

- An automated Central Tuberculosis Case Register to replace the manually operated case register, thus facilitating the processing and tracking of information from each TSA.
- Implementation of a federal grant, given to the Division because of the high prevalence of tuberculosis among refugees, to provide tuberculosis control services to the large refugee population in the state. The Division purchased outreach services and services of interpreters to assist tuberculosis clinics and local boards of health in the examination, treatment, and follow-up of refugees with the disease who do not speak English.
- Robert Koch, discoverer of the tubercle bacillus, honored by the Department's Public Health Rounds, on March 24, 1982, in its program on "The Eradication of

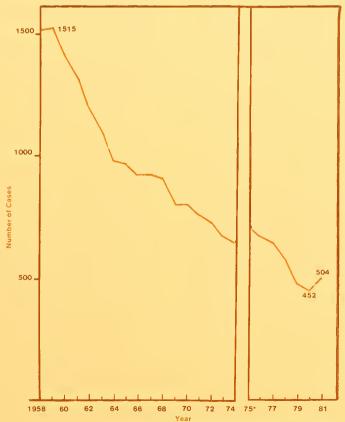


Figure 4. Number of Reported Cases of Tuberculosis in Massachusetts, 1958 - 1981.

* National Criterie for Reporting Tuberculosis Cases Chenge, January 1, 1975; Not e True Increase in Ceses Over 1974.



L.to R. Thomas J. Kearns, Program Chairman; Dieter Koch-Weser, M.D., John Moses, M.D., Moderator, Gustave Laurenzi, M.D., Robert Quinn, Esq.; Gary Epler, M.D.

Tuberculosis by the Year 2000 - Is It Possible?" The Governor had designated the day as "Robert Koch Day" and 1982 as a year of commitment to "Defeat TB Now and Forever," in cooperation with the World Health Organization and the International Union Against Tuberculosis.

During the fiscal year, the Division continued to provide the following services:

- A network of 10 inpatient and 34 ambulatory programs in community hospitals to make tuberculosis diagnostic and treatment services available and accessible to residents of every city and town in Massachusetts. Programs provided 3,756 hospital days of treatment and 24,106 outpatient visits.
- A central bacteriologic laboratory to provide statewide tuberculosis diagnostic and treatmentmonitoring services to physicians. Laboratory processed 31,390 specimens.
- Contractual purchase and distribution of tuberculin-testing supplies through local boards of health. Distributed supplies for approximately 250,000 tests.

- Maintenance of a manual statewide case register for the surveillance of tuberculosis, with a reciprocal exchange of information with states and the federal government. More than 1,000 patients on the case register, in addition to 7,000 contacts of cases reported annually.
- A substitution of ambulatory care for inpatient care throughout all or most of the treatment period, with a resultant decline in patient days from more than 265,000 in calendar year 1964 to 4,510 in calendar year 1981, and a reduction in the average length of stay in hospitals (Fig. 5).

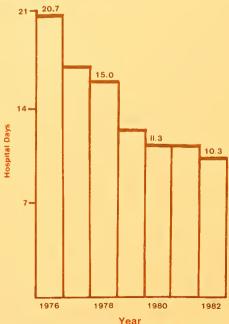


Figure 5. Average Length of Stay in Days, of Patients Admitted To General Hospitals Under Contract for Tuberculosis Treatment in Massachusetts - Fiscal Years 1976 - 1982.

DENTAL HEALTH

The Division of Dental Health continued to expand its programs of prevention and control of oral diseases in Massachusetts. Work of the Division encompassed:

• Prevention of Oral Disease - Fluoridation of public water supplies remained the Division's most urgent objective. The Federal Fluoridation Grant allowed the Division to purchase fluoridation equipment and chemicals for two new communities, Lynn and Lawrence, which have a combined population of 155,000. The project brought the number of new residents added to the state's fluoridation census to over 400,000 during the last two years, and the number receiving fluoridated water in Massachusetts to three million. Replacement equipment was purchased for 12 communities with a total population of 200,000. The monitoring and surveillance program continued throughout the year. The training of local water-works personnel, review of daily and monthly reports, and site inspections resulted in a rise in the mean fluoride level for all monthly samples to 0.96 ppm, the closest to optimum for any year recorded. During the year, three local boards of health ordered fluoridation; all three were challenged and the question went to a referendum. Rockport and Manchester voted to fluoridate. Fluoridation of the two communities, in the next fiscal year, will result in nearly universal fluoridation of the public water supplies of Greater Boston, the North Shore, and the Merrimack Valley.

Enrollment in the school-based fluoride mouth-rinse program rose to 34,000 school children in 25 Massachusetts communities. The Division continued to provide technical assistance to dental personnel in cities and towns that offered preventive services or treatment to school-age children. In addition, the Division served as

the sponsoring agency for continuing education for dental public health hygienists licensed by the Board of Dental Examiners.

 Dental Care — The Division of Dental Health continued to work with the Departments of Public Welfare, Mental Health, and Youth Services to meet the dental needs of their clients while containing program costs. The Division worked with the staff of the Department of Public Welfare to revamp the professional review system for approval of dental services, a measure that resulted in a 25 percent reduction in inappropriate or unnecessary requests from the 1981 levels. Assistance was provided to the Division of Mental Retardation of the Department of Mental Health in coordinating its community and institutional dental programs, and steps were taken to improve the dental program of the Department of Youth Services' Judge Connelly Youth Center in Roslindale.

The Division cooperated with the Massachusetts Dental Society to improve access to dental care for the institutionalized elderly. In conjunction with the Special Nursing Home Committee of the Society and with the Harvard School of Dental Medicine, the Division sponsored three regional workshops for nursing home administrators and staff on how to care for the dental needs of elders. A handbook for nursing home administrators and staff on how to identify and care for common dental problems was prepared, and a set of voluntary standards of care adopted for use by nursing home dental consultants.

• Training and Research in Dental Public Health — During the year, the Division offered training in dental public health to five student interns from Massachusetts dental schools and schools of public health. Two major research projects were com-

pleted in fiscal year 1982: a summary of the report of practice activities of 4,000 Massachusetts dentists; and a subcomponent of the Division of Preventive Medicine's Health Interview Survey, which dealt with attitudes toward dental health and the seeking of dental care.

DIVISION OF ALCOHOLISM

In fiscal year 1982, the first year of receipt of federal block grant funds, the Division of Alcoholism reviewed and evaluated all state and federal programs through an open competitive process. The Division was able to fund 211 contracts amounting to \$20,876,274. Approximately 20 percent came from federal monies, which supported 36 projects including eight primary prevention centers, youth programs, women's programs, and other primary prevention and early intervention programs for minorities and the elderly. Among the many activities of the eight primary prevention centers were:

- Development of alcohol abuse prevention programs in schools.
- Development by the Mt. Auburn Hospital regional prevention center of a printed curriculum on alcohol education for grades 3 to 6.
- Training programs on the prevention of alcohol abuse in the workplace, and various activities related to the elderly.

The Division used innovative and effective approaches to their newspaper, television, and other forms of advertising. Participation in the National Institute on Alcohol Abuse and Alcoholism media campaign for women and youth was enhanced by billboard advertising on Massachusetts roadways with a special message for women to help them develop skills in how to refuse to drink. The Division also obtained the cooperation of the Goodyear Tire Company to fly their blimp in



Massachusetts with the message "Friends Don't Let Friends Drive Drunk." The Boston Red Sox flashed the same message on their electric scoreboard during the Red Sox games, and the Independent Taxi Operators Association carried the message on their cabs.

In the area of secondary prevention, the Division increased to 17 the number of projects that seek to identify and treat youths with a drinking problem. To meet the needs of minorities in the state, the Division funded 20 special projects, several of which were added to existing programs directed specifically to the Hispanic community. The Division maintained its commitment to the state's employee assistance programs as a means of early identification of

potential alcoholics. The state driver alcohol education and treatment program offered services to the growing number of persons arrested for drunk driving. More than 15,000 persons were referred to 53 programs in fiscal year 1982. The Division completed a major study of recidivism from a sample of 1,900 persons arrested for drunk driving, and designed and began a study of four intensive intervention Phase II drunk driving projects.

Among the many bills on drunk driving introduced into the Legislature was one from the Divison of Alcoholism to increase penalties for second and multiple offenses. The Director of the Division of Alcoholism served on the Governor's Task Force on Drunk Driving. Recommendations of the task

force laid the basis for the comprehensive bill filed by the Governor. By the close of the fiscal year, a new bill was close to passage.

The Division continued to fund the statewide system of 22 detoxification centers that served approximately 20,000 clients for 154,000 bed-days. The Division also maintained its support of 47 halfway houses that served 5,500 clients for 135,000 bed-days, and 44 outpatient programs that had 68,000 patient visits.



REGIONAL HEALTH OFFICES

The four Regional Health Offices continued to coordinate the Department's general field activities and to act as intermediaries between central service programs, local health agencies, and citizen groups. To the extent that resources were available, regional staff carried out their multifaceted activities and responsibilities. These can be summarized as follows:

- Technical assistance for sanitary programs and consultations on nursing, social work, and nutrition programs.
- Regulatory application and regulations of the State Sanitary Code and Food and Drug laws; inspection of prisons and certification of migrant labor camps.
- Direct patient services the provision of either direct services or contracts with other medical agencies. These activities include the programs of the Services to Handicapped Children, rehabilitation programs, family planning, and other programs of the Divisions of Family Health Services, Preventive Medicine, and Dental Health.
- Inservice educational programs for local nurses, sanitar-

ians, nutritionists, physical therapists, social workers, and members of local boards of health.

Examples from each region indicate the diverse activities of all the Regional Health Offices:

- Central Region Lead paint inspectors carried out the following activities: screenings, 400; housing inspections, 266; reinspections, 502; court cases, 173; houses deleaded, 26; and educational seminars, 6. Twenty-eight communities, an increase of 12 over the previous year, participated in the Fluoride Mouth-Rinse Program, which reached 12,828 school-age children, an increase of nearly 4,000 over the previous year.
- Northeastern Region The 13 specialized clinics in the network of Services to Handicapped Children served approximately 2,000 clients in the 20 sessions that were held each month. A Genetics Clinic was established in February 1982, and has been well received by both staff and clients. In the five-month period of operation, 17 families received genetic evaluations and counseling.
- Southeastern Region The annual board of health questionnaire was expanded to five pages to obtain more information on

budget and staffing patterns necessitated by Proposition 2½ and on its effect upon local health services. The Guidebook for Massachusetts Boards of Health was distributed to the 105 cities and towns in the southeastern region. Regional staff continued to provide technical consultation and help to the active Southeastern Association of Boards of Health.

• Western Region - The model Quabbin Health District (Ware-Belchertown) successfully completed its second year with partial funding from the Department. In accordance with terms of the contract, the Health District established a new laboratory that was officially certified. In the next fiscal year, it will begin testing water samples (total and fecal coliform counts) from surrounding towns. Regional staff assisted in planning and implementing a special training seminar for local boards of health at the University of Massachusetts Campus Center in Amherst. Based on the Guidebook's chapters on legal authority and responsibilities, enforcement procedures, and liability of local health officials, the seminar was jointly sponsored by the Department and the Massachusetts Health Officers Association.



HEALTH REGULATION AND PLANNING

Through its program of standard setting, inspection, licensure, and review, the Department works to ensure the people of Massachusetts safe health care of high quality. Under the provisions of the Determination of Need Act, the Department also has the responsibility for preventing unnecessary expansion or renovation of health care facilities.

HEALTH CARE QUALITY

The Division of Health Care Quality is mandated by state and federal statutes to license and certify health care facilities and services in the Commonwealth. In fiscal year 1982, the Division licensed over 1,900 facilities including nursing homes, rest homes, hospitals, ambulance services, clinical laboratories, clinics. blood banks, home health agencies, and state schools and community-based programs for the mentally retarded. A 41 percent reduction in staff of the Division, the result of severe budget cuts, severely compromised the Division's ability to conduct routine inspections and investigate complaints. The introduction of abbreviated inspection processes of nursing homes and clinical laboratories made it possible, however, to redirect the efforts of the field staff to nursing homes and laboratories applying for original licensure or certification, and to facilities with documented problems of compliance.

The Division investigated 236 complaints of abuse, mistreatment, and neglect of patients in long-term care facilities. Ninety-

one of these complaints involved reports of patient abuse, of which 54 were substantiated. The Division also investigated and resolved 60 complaints about patient care and quality of services in hospitals, clinical laboratories, and ambulance services.

To protect patients and improve patient care, the Division initiated revocation actions against 32 long-term care facilities and one ambulance service, and initiated decertification actions against 11 long-term care facilities, three hospitals for which two emergency patient care receivers were appointed, and two clinical laboratories. Six long-term care facilities with serious violations of the life safety code were either closed or downgraded to a lower level of care. One correction order was issued to an ambulance service because of serious deficiencies in the maintenance of vehicles.

During fiscal year 1982, the nursing home receivership bill, giving the Department the authority to request a court-appointed receiver for the operation of a nursing home in difficulties, was signed into law. Two receivers were appointed during the year, in response to grave problems of patient care and safety.

The Division reviewed and approved the design, planning, and construction of approximately 600 projects in health care facilities involving new construction, renovations, alterations, and acquisition of new equipment to ensure compliance with certain life safety code, building, and Determination of Need requirements.

The Division's mandate to license health care facilities in the

Commonwealth was extended by passage of enabling legislation for the licensure of free-standing and hospital-based birth centers. A preliminary draft of Birth Center Licensing Regulations was completed by the end of the fiscal year. The Division also made progress toward its objective to reduce excessive regulation and eliminate duplicative surveys of facilities and services. Division staff obtained permission of the Public Health Council to proceed with a public hearing on proposed revisions to the hospital licensure regulations. The revisions would implement an agreement between the Department of Public Health and the Joint Commission on Accreditation of Hospitals (JCAH) to offer "deemed" status by the Department to hospitals accredited by the JCAH.

The Division conducted three public hearings across the state on proposed revisions to the Ambulance Licensure Regulations and on amendments to the Controlled Substance Regulations. Amendments to the latter regulations would provide the legal framework for certain emergency medical technicians to administer medications in the prehospital setting under the direction of a physician. Other accomplishments of the Division included:

- Promulgation of the 1980 Rate Incentive Regulations allowing for reward of facilities in outstanding compliance with state licensure and federal certification regulations.
- Completion of the Surveyby-Exception demonstration project and implementation of the process statewide.
- Development of more efficient information management systems.

• Development of the Long-Term Care Ownership Reporting System to allow staff to identify patterns of common ownership of long-term care facilities in the state.

DETERMINATION OF NEED

Under the provisions of the Determination of Need Law (Chapter 776 of the Acts of 1972), the Department of Public Health is responsible for analyzing the need for, and cost-effective allocation of, health care facilities in the state. The purpose of the legislation was to prevent unnecessary building of new facilities or expansion of existing facilities, to avoid wasteful duplication of services and facilities, and to control spiraling health costs.

During fiscal year 1982, the budget of the DON Program was drastically reduced. The program's professional staff, cut from 14 to two, were thus unable to process applications expeditiously, with a resultant backlog of nearly \$750 million in applications. The difficulties were compounded by an increase of 200 percent in the dollar value of applications received in 1982 as compared to 1980.

The Department worked with other public and private agencies in evaluating the structure and function of the DON Program, and cooperated with the Senate Post Audit and Oversight Subcommittee and the Governor's Health Care Cost Containment Coalition. The latter had been convened to consider the cost implications of hospital capital projects. At the same time, a portion of the DON budget was restored to permit some restaffing of the program. As a result of the careful scrutiny of the program, the Department implemented several measures to increase efficiency:

• The Department adopted a system of expediting smaller pro-

jects with limited effect upon cost or health service organization. "Delegated review" permits the Commissioner to approve applications for such projects without review by the Public Health Council.

- Legislation has been introduced to raise the threshold for DON applications to remove small projects from the program; the measure would reduce the number of filing dates annually from three to one for projects over \$3 million.
- The Department proposed to the Governor's Health Care Cost Containment Coalition that an upper limit be set on the amount of dollars allocated to projects; "affordability" would become a new review standard.

Although the DON Program faced serious challenges, it emerged at the end of the fiscal year with a renewed sense of mission and support, and a greater appreciation of the need for reform. The program was actively assisting the various groups working to revitalize its activities.

EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS), an agency of the Department of Public Health since 1973, worked with many organizations and agencies on a regional and statewide basis to improve the delivery of emergency medical care. Working with

regional councils and corporations, local providers and consumers, and with the advice of the Emergency Medical Services Advisory Board, OEMS moved Advanced Life Support Regulations toward promulgation by the Public Health Council. OEMS worked with the Division of Health Care Quality to develop revised regulations to be presented early in the next fiscal year. OEMS also worked closely with the Determination of Need Program in the review of applications related to emergency services, and participated in the analysis of the need for helicopter aeromedical transport. As a result, DON approved the first application for a helicopter service to be conducted by the University of Massachusetts Medical Center in Worcester. OEMS staff also worked on analyses of DON applications for hospital-based advanced life support services in Marlborough and Lowell.

Programs to upgrade resources and to broaden local and state networks of emergency medical services functioned throughout the year:

• OEMS provided administrative coordination and approval of all basic emergency medical technician (EMT) courses in the state. As of June 30, 1982, there were over 14,500 Massachusetts certified ambulance operators and attendants, 78 nationally registered EMT-intermediates, and 96 EMT-paramedics in the state.



- OEMS offered 118 basic training courses with an enrollment of 2,430.
- Training of emergency room nurses was maintained. During the year, 278 nurses participated in the Critical Care Emergency Department Nurse Education Program, which has now been offered to more than 1,100 registered nurses in the Commonwealth.
- OEMS dispersed more than \$600,000 received from federal block grant funds to regional and local projects, including planning or training grants to each of the six regions, monies for evaluation of an innovative helicopter transport project, a training film that can be used nationally, a course for pediatric emergency nurses, and a major feasibility study of the emergency number 911.

HEALTH STATISTICS AND RESEARCH

The Division of Health Statistics and Research continued to carry out its major functions of collecting, analyzing, interpreting, and disseminating statewide data on vital events, health facilities, and licensed health professionals. As the officially designated Massachusetts State Center for Health Statistics, the Division fulfilled its broader responsibility to provide coordination of data among agencies that collect and use health data, to

provide statistical standards and technical assistance to users of health and demographic data, and to serve as a clearinghouse for information on resources of public health data.

During fiscal year 1982, the Division recorded the following accomplishments:

- The Registry of Vital Records and Statistics processed and analyzed reports of approximately 250,000 births, deaths, and marriages, divorces, and abortions, which were summarized in the Annual Report of Vital Statistics. In addition, the registry ascertained the completeness and correctness of approximately 150,000 legal copies of vital records, processed 10,000 amendments and corrections, provided 50,000 certified and 30,000 medical research and abstract copies of records, and provided technical assistance to 3,500 lawyers and representatives of state and federal agencies, and to 7,000 genealogists who regularly use the records.
- The Registry of Vital Records and Statistics completed its first full data year (calendar 1980) of coding multiple causes of death on the Division's mortality data file, and reached the quality standards of the National Center for Health Statistics an error rate of less than 5 percent.
- In December 1981, after many previous attempts, legisla-

tion was passed to recodify and broaden the statutes governing the vital registration system in the Commonwealth. Chapter 684 of the Massachusetts General Laws, Acts of 1981, granted the Department the power to develop and implement regulations on the registration of vital events. The statute was expected to ensure a coherent and legally sound structure for the vital registration system in the Commonwealth.

- Regulations governing the operation of the Massachusetts Cancer Registry were approved by the Public Health Council and promulgated in December 1981. The Cancer Registry began receiving reports of all new cases of cancer diagnosed in hospitals on or after January 1, 1982.
- Although no new health manpower data were collected, the Health Resources Statistics Unit processed data on 20,000 physicians for 1980 and on 100,000 registered nurses for 1978 and 1980. Publication of the Health Data Annual, in a modular format, was resumed after a lapse of three years.
- The Research and Epidemiology Unit developed a Years of Life Lost Mortality Analysis for the state as a whole and for each of the Health Systems Agencies (HSAs), as well as a methodology to project optimal mortality rates, incorporating known risk factors (Fig. 6).

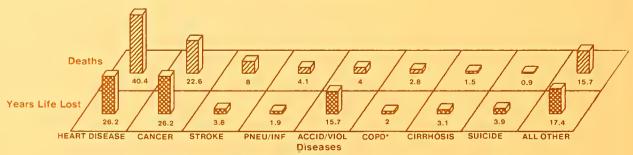


Figure 6. Mortality and Years of Life Lost in Massachusetts, 1980; Percent Distribution by Selected Causes of Death.

*Chronic obstructive pulmonary disease.

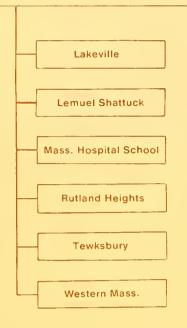
HOSPITALS

HOSPITALS

Through the operation of its public health hospitals, the Department has been able to supplement existing resources on a statewide basis and to assume special responsibilities to ensure comprehensive health care to the community. The role of the public health hospitals in the overall delivery of health care in the Commonwealth remained a matter for discussion during fiscal year 1982. Although many services once provided only by these hospitals have been absorbed by the private sector, the hospitals, in general, continued to provide a broad range of clinical services to meet the needs of their patients. Pondville Hospital ended its illustrious history as the oldest state-operated facility for the treatment of cancer in the United States on January 28, 1982, when its sale to the Neponset Valley Health Systems was consummated.

The services and programs of the six remaining public health hospitals are briefly summarized.

• Lakeville Hospital — A 100bed chronic disease rehabilitation facility located in Middleborough in the southeastern region of the state, Lakeville has an inpatient census divided equally between pediatric and adult patients. Although the average inpatient census (73.7 versus 93.4 in 1981) decreased in fiscal year 1982, the number of admissions remained approximately the same, an indication of a shorter length of stay and a continuing shift toward true rehabilitation. The average length of stay was reduced dramatically by 22.8 percent. The reduction was made possible by the efforts of hospital staff to place long-term patients in more appropriate settings to improve independent living. The high quality of the



medical staff was maintained and enhanced by the addition of several specialty consultants.

The dialysis unit of the hospital was closed in April 1982, after two private dialysis units had received approval to care for the Lakeville patients. The initial study of the three-hospital consortium concentrated on options for the future of Lakeville Hospital.

• Lemuel Shattuck Hospital — Located in the Jamaica Plain section of Boston, the Lemuel Shattuck Hospital provides inpatient care to patients suffering acute episodes of chronic illness, and outpatient follow-up. Medical and surgical services are provided to clients of the Departments of Correction and Mental Health. The medical correctional unit continued to operate at above 100 percent occupancy; completion of the Department of Correction's holding area increased the hospital's capacity for treatment of Correction's clients on an outpatient basis. During fiscal year 1982, the hospital admitted 1,699 patients, an increase of 28 percent over the previous year, and had 20,099 visits to the Ambulatory Care Program.

The transfer of 64 patients from the inpatient unit of the Bay Cove Mental Health Center was carried out in a well-planned operation. The move has resulted in greatly improved quality of care to both chronically and acutely ill patients from the South Cove, South Boston, Columbia Point, and North Dorchester sections of Boston.

The Outpatient Department opened several new clinics, including a tuberculosis clinic for the evaluation and treatment of suspected tuberculosis for residents of southwest Boston. Preemployment or health screening services were offered for employees of various state agencies. The pain and stress clinic had a 51 percent expansion rate, and the dental clinic, a growth of 150 percent over the previous year.

The Chronic Care Resource Center (developed through a grant from the Robert Wood Johnson Foundation) initiated, in conjunction with the Ambulatory Care Program, nurse practitioner services at two of Boston's housing facilities for the elderly to bring health care to the residents.

The Gerontological Internship Program, administered by the Department of Psychiatry, has been established to meet two goals: to provide a body of talented graduate students (over 30 volunteers each provided 20 to 30 hours per week for a year) to allow indepth psychotherapy and follow-up; and to help develop the Shattuck as a gerontological resource to the community and to the local universities.



 Massachusetts Hospital School — The Massachusetts Hospital School, located in Canton, is a unique institution that provides medical, educational, and restorative services to physically handicapped but intellectually able children from age three to 21. The trend of placing and keeping handicapped children with such disabilities as cerebral palsy, muscular dystrophy, and spina bifida in the community has resulted in a core population with more severe disabilities at the Hospital School.

The Hospital School continued to provide a wide range of clinical services — orthopedics, cardiology, cerebral palsy, Milwaukee Brace, myelodysplasia — to both inpatients and outpatients from the surrounding communities. When medically indicated, surgery, principally orthopedic, was performed. Despite massive staff reductions of 19 percent, the Hospital School maintained its daily census.

The Gates Program and the Baylies Pilot Project, directed by Hospital School staff, worked closely with the Student Independent Living Experience (SILE), operated by the Hospital School's nonprofit partner, the Medical and Educational Fund for the Handicapped, to reinforce the development of skills necessary for young people to achieve independent living when they leave the Hospital School. Through the generosity of benefactors, the dining room at Baylies Cottage was completely renovated. A fully equipped kitchenette designed for the handicapped was installed as an aid in teaching the skills of daily living.

• Rutland Heights Hospital — The Rutland Heights Hospital, located in Rutland, is a multipurpose facility that serves an adult population in central Massachusetts. During the last eight months of fiscal year 1982, the hospital operated 100 beds (rate of occupancy was 94.9 percent). The number of patient days was 39,658, and the average daily census, approximately 98.

As part of its program of prevention, the hospital maintained a comprehensive health program to prevent, delay, or reduce the need for institutional care. The Adult Care Program served a population within a 10-mile radius of the hospital on an outpatient basis. Clients received physical, occupational, and speech therapy when needed. The alcoholism treatment

program offered rehabilitation through social services, individual, group, and vocational counseling to alcoholics who voluntarily requested treatment.

The long-term care program provided services to maintain or promote the highest level of health of patients suffering from chronic disabling conditions. It also offered emotional and social support and comfort to the terminally ill patient and family.

• Tewksbury Hospital --Tewksbury Hospital in the northeastern region of the state, with a bed capacity of 820, is the largest chronic disease, rehabilitation hospital in the state. It also operates a 225-bed program for homeless men, most of whom are chronic alcoholics. Twenty men, who asked for referrals to halfway houses or special treatment centers for alcoholism in the community, were given extensive counseling; where appropriate, referrals were made. On March 3, 1982, the geriatric unit at the Danvers State Hospital was closed and 22 patients transferred to Tewksbury Hospital.

During fiscal year 1982, the hospital maintained an average occupancy rate of 93 percent. The demand for admissions to Tewksbury was so overwhelming that the hospital was forced to stop



issuing admission forms in July

Responding to an urgent call from the Deputy Commissioner of Public Health, nursing staff from the hospital were driven to Newburyport to care for 60 patients at the Newburyport Manor Nursing Home. The regular staff had walked out because of nonpayment of wages. Despite a severe snowstorm during the weekend of December 4, 1981. Tewksbury Hospital employees reached the nursing home and carried out the assignment with their customary dedication and competence.

 Western Massachusetts Hospital - Located in Westfield in Hampden County, the Western Massachusetts Hospital offers long-term care of chronically ill adults, rehabilitation programs, and medical and surgical care of multiply handicapped children. The medical unit continued to provide care to patients with chronic medical conditions that require a higher level of care than that which is available at a nursing home. In addition, the hospital provided respite care for both children and adults, and day-care services for adults with physical disabilities.

The hospital's outpatient clinics offered a wide range of services to high-risk groups, underserved populations, medically indigent persons, and clients of other state and local human service agencies. The Alcohol Rehabilitation Treatment Program was closed on August 29, 1981 because of a mandatory reduction in the work force. Efforts were made, however, to restore the program. Alcoholism Services for Greater Springfield, Inc., was awarded a grant by the Division of Alcoholism to fund a 20-bed inpatient alcoholism program in Region I.

On January 4, 1982, the hospital opened an innovative Palliative Care Unit, a 20-bed inpatient program to provide a support system to help persons who cannot be cared for at home to live effectively in the face of impending death. A multidisciplinary team provided services 24 hours a day, seven days a week; care included psychosocial support for the patient, family, and staff.

The Coma Unit continued to receive extensive news coverage, both national and international. in the press and on television, including the New York Times Sunday Magazine, France's Le Figaro, and ABC's Nightline.

The Summer Respite Camp Program for multiply handicapped children from three to 14 years of age was filled to capacity. The children received the hospital's regular pediatric services as well as a variety of therapeutic activities — arts and crafts, field trips, music, cooking and supervised swimming.

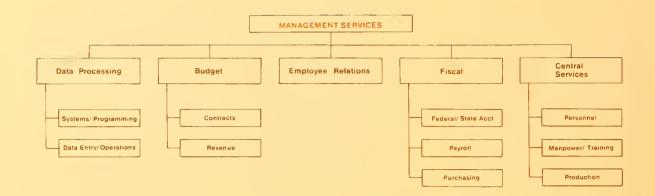
The Department's public health hospitals admitted 3,537 patients during fiscal year 1982. The decrease of 417 from 1981 reflects the closing of Pondville Hospital six months before the end of the fiscal year. The average length of stay varied from 13.77 days at Pondville to 1,262 days at Tewksbury. The number of outpatient visits — 45,754 — represented a decrease of 15,650 from 1981 (Table 8), a reflection of the closing not only of Pondville Hospital but of the outpatient department of the Rutland Heights Hospital in October 1981.

The hospitals continued to expand training of physicians and paramedical personnel as part of the Department's total public health effort. Lemuel Shattuck, Tewksbury, and Western Massachusetts Hospitals graduated 86 practical nurses from their accredited schools of practical nursing.

Table 8. Public Health Hospitals Annual Census Summary — July 1, 1981 - June 30, 1982.

Hospitals	Admissions	Discharges	Days	Stay	Census	Visits
Lakeville	329	328	26,923	75.8	73.76	8,865*
Lemuel Shattuck						
Main	1,329	1,294	25,902	20.37	70.96	20,099*
Medical Geriatric	39	49	20,304	792.99	55.63	
Bay Cove	331	324	13,427	16.03	55.26	
Mass. Hospital School	88	83	25,495	578.53	111.02**	1,574
Pondville	310	280	4,286	13.77	23.00	7,369
Rutland Heights	305	306	35,658	128.50	97.69	193
Tewksbury						
Main	247	71	276,971	1,262.00	758.82	_
Homeless Men	286	294	56,913	143.25	155.93	_
Western Mass.	273	220	25,434	84.56	69.68	7,654
TOTALS	3,537	3,249	511,313	_		45,754

The dialysis units at Lakeville and Shattuck Hospitals provided 4,228 and 7,404 treatments (including home dialysis), respectively
 Average daily consus at the Massachusetts Hospital School has been adjusted to reflect enrollment days.



MANAGEMENT SERVICES

Management Services consolidates the activities of the Division of Data Processing, the Budget Office, the Office of Employee Relations, the Fiscal Office, and the Division of Central Services. These Divisions provide centralized administrative services to the Department.

DATA PROCESSING

The Division of Data Processing provides computer resources to the Department of Public Health through a time-sharing and remote-job entry contract with several bureaus that provide computer services. The Division also provides advice on data processing to the Divisions of the Department, and reviews all requests from Divisions for data-processing services, equipment, and systems. Major projects in fiscal year 1982 included:

• Completion of systems analysis and design for the new Management Information System of

the Division of Alcoholism.

- A continued major role in the development of the integrated Personnel/Payroll Management Information System (PMIS) of the Office of Administration and Finance, for which the Department will be the initial test site.
- A Request for Proposals for an automated laboratory and feefor-service program for the Division of Biologic Laboratories, State Laboratory Institute.
- Preliminary design of the new TB Management Information System for the Division of Tuberculosis Control.

BUDGET OFFICE

The Budget Office, which supervises the preparation of annual budget requests and spending plans for the Department's 24 state appropriation accounts, continued to oversee the work of the Contracts and Revenue Units.

EMPLOYEE RELATIONS

The Office of Employee Relations directed the collective bar-

gaining program of the Department, held civil service hearings for Department employees, and represented the Commissioner at hearings of the Civil Service Commission. The Office administered the Disability Retirement Program for the cities and towns of the Commonwealth.

FISCAL OFFICE

In addition to providing accounting services for \$130 million in state and federal funds, the Fiscal Office oversees the operations of the Payroll and Purchasing Units. During fiscal year 1982, the Fiscal Office continued its 1981 record of reimbursing purchase-of-service providers within seven working days.

CENTRAL SERVICES

The three units of the Division of Central Services — Personnel, Manpower/Training, and Production — continued to provide department-wide services.

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1981 - JUNE 30, 1982

	STATE	FEDERAL	TOTAL
COMMISSIONER'S OFFICE	\$ 903,499.86	\$ 79.557.17	\$ 983,057.03
MANAGEMENT SERVICES	2,337,807.31	258,438.56	2,596,245.87
LEGAL OFFICE	196,075.31	36,163.88	232,239.19
Sub Total	3,437,382.48	374,159.61	3,811,542.09
COMMUNICABLE AND	2 250 0 42 03	400.004.44	2 (02 (/0 27
VENEREAL DISEASES	2,270,842.93	422,826.44	2,693,669.37
Sub Total	2,270,842.93	422,826.44	2,693,669.37
COMMUNITY HEALTH SERVICES			
Family Health Services	5,484,643.05	18,175,092.92	23,659,735.97
Preventive Medicine	488,961.50	792,420.47	1,281,381.97
Tuberculosis Control Local Health	2,519,298.40 619,511.15	33,443.94 818,243.70	2,552,742.34 1,437,754.85
Dental Health	86,285.61	161,750.89	248,036.50
Alcoholism	16,191,413.34	4,663,222.00	20.854,635.34
Sub Total	25,390,113.05	24,644,173.92	50,034,286.97
ENVIRONMENTAL HEALTH			
Lead Paint Poisoning	595,521.63	412,642.67	1,008,164.30
Radiation Control	409,196.31	6,123.96	415,320.27
Consumer Products	1,506,127.81	2,936.59	1,509,064.40
Sub Total	2,510,845.75	421,703.22	2,932,548.97
HEALTH PLANNING AND REGULATION			
Health Statistics	726,721.68	74,827.40	801,549.08
Determination of Need	221,137.14	10,755.25	231,892.39
Emergency Medical Services	273,396.41	50,418.54	323,814.95
Health Care Quality	2,312,591.54	293,977.39	2,606,568.93
Sub Total	3,533,846.77	429,978.58	3,963,825.35
HEALTH SERVICES			
STATE LABORATORY INSTITUTE HOSPITALS	4,106,401.81	275,136.75	4,381,538.56
Lakeville Hospital	6,937,580.00	_	6,937,580.00
Lemuel Shattuck Hospital	15,568,238.00	_	15,568,238.00
Mass. Hospital School	5,837,425.00	_	5,837,425.00
Pondville Hospital	3,207,908.00	-	3,207,908.00
Rutland Heights Hospital	5,521,946.00	_	5,521,946.00
Tewksbury Hospital	16,379,332.00	_	16,379,332.00
Western Mass. Hospital	4,914,472.00	_	4,914,472.00
Sub Total	62,473,302.81	275,136.75	62,748,439.56
TOTAL	\$99,616,333.79	\$26,567,978.52	\$126,184,312.31



THE COMMONWEALTH OF MASSACHUSETTS Edward J. King, Governor

EXECUTIVE OFFICE OF HUMAN SERVICES William T. Hogan, Jr., Secretary

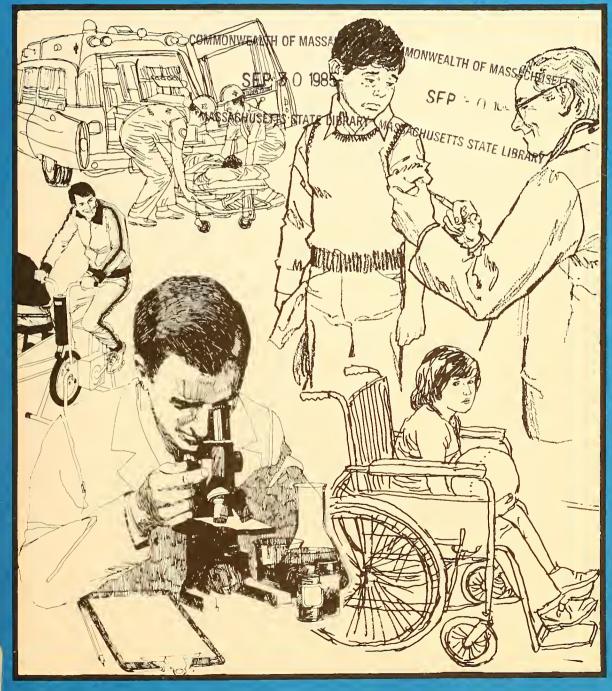
DEPARTMENT OF PUBLIC HEALTH Alfred L. Frechette, M.D., Commissioner

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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH ANNUAL REPORT 1982 - 1983



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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

JUNE 30, 1983

Bailus Walker, Jr., Ph.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

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FROM THE OFFICE OF THE COMMISSIONER

Fiscal year 1983 was coming to a close when I was assigned the public health portfolio on June 6, 1983. It marked the retirement of my predecessor, Dr. Alfred L. Frechette, who had served the people of the Commonwealth with great distinction for almost 20 years. The achievements of the Department of Public Health during fiscal year 1983, therefore, reflect the concerns and leadership of Dr. Frechette.

Cognizant of the changes that have taken place in public health over the years, the Department has been intensively reexamining its role in the changing scene of health needs. To achieve its objectives and to become more responsive to present and future needs, and demands, of the people of the Commonwealth, the Department established an integrated set of priorities:

- I. Protection/Prevention: To protect the public health through disease and illness prevention and the encouragement of self-responsibility for good health.
- 2. Direct Services: To provide health services to specific populations not adequately treated by the voluntary and private sector
- 3. Regulation: To set and menitor standards for health care and environmental sanitation.
- 4. Planning: To collect and manage data on the health status of the people of the Commonwealth, and of the health facilities that serve them.
- 5. Management: To manage prudently and efficiently the Department's limited resources by encouraging use of health care resources where they will have the greatest effect on health status.

In the past year, the Department has moved vigorously to give substance to these priorities. Despite the reduction in both state and federal funds, the Department was able to keep indispensable programs by targeting its resources to programs in the prevention of avoidable illness and death, in providing direct services to specific populations such as women and children at risk, alcoholics, women in prison, the homeless, and handicapped children.

As concern among both the public and health professionals grew over physical, chemical, and biological components of the environment, the Department carried out investigations of the danger, if any, to the health of the people, and to allay their fears. The Division of Environmental Health Assessment, strengthened by the addition to its staff of two epidemiologists and one toxicologist, responded to concerns about increased risks of environmentally-induced illness

The Department also endorsed right-to-know legislation that would require the identification and hazardous warning-label of chemical substances. In this effort, the Department joined physicians, epidemiologists, organized labor, and other concerned persons to provide information on the hazards of exposures in the workplace.

Because of the age of housing in Massachusetts, lead-based paint remains a most serious environmental hazard, especially to children. The Department's Division of Childhood Lead Paint Poisoning Prevention has been active not only in deleading old houses, but in offering educational programs about lead and its toxicity to nurses and other health care professionals at the local level. To speed up the retrieval of the results of approximately 100,000 bloodlead analyses, the Division put into operation an automated data system, which now makes monthly and quarterly summaries available to local hoards of health.

In the past year, the Department's six public health hospitals continued their broad range of largely chronic and rehabilitative services and instituted several innovative programs. The Lemuel Shattuck Hospital, which has been moving in the direction of a

geriatric center for the community, provided 100 beds for the homeless. Rutland Heights Hospital, which has a long history of treatment of alcoholics, was selected as the pilot site for the residential alcohol treatment program, a legislated alternative to a mandatory jail sentence for drunk drivers convicted of a second offense.

The Division of Preventive Medicine expanded its activities to reach segments of the population that had not been served in the past. In January 1983, a comprehensive health and well-being program, the Women's Health and Learning Center, was established at the Massachusetts Correctional Institution, Framingham, and the Lancaster Pre-Release Center for incarcerated women who are within three months of release. The program provided workshops and counseling to aid the women in coping with health and related issues they will face outside prison. Concentrating on the well elderly, the Division, in cooperation with the Department of Elder Affairs, prepared brochures and a public service announcement to be distributed early in the next fiscal

The Department's brochure, "Nuclear Weapons: A Public Health Concern," was so well received that it went into four printings. The Department will continue to alert the people to the catastrophic consequences of a nuclear war and to the overriding need to prevent its occurrence.

The 69th Annual Report* is a brief accounting of the activities of the Department of Public Health during a year in which the Department worked to carry out its mandated commission maintain, protect and improve the health and well-being of the people" - in the face of the many changes and challenges facing public health.

Beuluswelhe In Ph. O L-Bailus Walker, Jr., Ph.D., M.P H

Commissioner

•In 1914, the Legislature passed an act dissolving the Massachusetis Board of Health and creating the State Department of Public Health

ENVIRONMENTAL HEALTH SERVICES

The Bureau of Environmental Health Services includes the Divisions of Environmental Health Assessment, Radiation Control, Food and Drugs, Community Sanitation, and Lead Paint Poisoning Prevention. Specialists in epidemiology, toxicology, environmental hygiene, radiation control, and health standards and criteria respond to, and evaluate, health threats posed by environmental hazards. The Bureau works cooperatively with the Department of Environmental Quality Engineering to establish standards for monitoring environmental hazards, to interpret engineering data and laboratory analyses, and to provide technical advice and expertise to the public.

ENVIRONMENTAL HEALTH ASSESSMENT

During fiscal year 1983, the Division of Environmental Health Assessment consolidated its activities into three major, overlapping program areas: Environmental Epidemiology, Environmental Toxicology, and Environmental Hygiene. Many individual projects were carried out by two or more programs, but are reported here under the program with the most responsibility.

Environmental Epidemiology

Responding to reports of unusual occurrences of diseases thought to be related to environmental factors, the Environmental Epidemiology section carried out the following studies:

• Ashland — Ashland has been designated a Superfund site because of contamination of the Sudhury River by chemicals leak-

ing from the site of the former Nyanza Chemical Company plant. The Division received a report of elevated deaths from cancer among Ashland residents during the period 1970 to 1980. At the request of the Ashland Board of Health, the Directors of the Division and of the Cancer Registry met with the townspeople and reviewed mortality data and available incidence data. The figures showed that Ashland did not have an elevated cancer rate.

- Bedford The standardized mortality ratio for female breast cancer in Bedford rose from 81 during the five-year period 1968 to 1973 to 217 in the four-year period 1974 to 1978. Examination of death certificates for more recent years showed that the trend was continuing. High levels of trichlorethylene and dioxane were found in some of the town wells. Discussions with the Bedford Health Officer have indicated support for a case-control study that would emphasize environmental factors associated with breast cancer. A questionnaire has been prepared, and a study protocol drafted for submission to the Department's Human Subjects Review Committee.
- Holbrook Several lagoons used to store hazardous waste overflowed during the spring. The Division investigated reports by Holbrook residents of what they considered to be unusually high rates of cancer. Applying incidence rates from the Connecticut Tumor Registry to Holbrook, staff found slightly elevated cancer mortality rates from 1969 to 1978. Because the rates were not statistically significant and there was no documented exposure to the chemicals, the Division planned no further study.
- Leominster The local board of health reported 17 cases of Hodgkin's disease diagnosed hetween 1975 and 1982. The cases were mapped and no geographical concentration was apparent. With

the assistance of the Division of Health Statistics and Research, staff from the Division of Environmental Health Assessment interviewed each living case. A report based on the analysis of the data concluded that no common environmental or occupational exposure could be demonstrated.

- Lowell Residents near the Silresim site, a former waste recycling plant, had complained of health problems that they associated with exposure to chemicals emanating from the site. The Departments of Environmental Quality Engineering (DEQE) and Public Health jointly sponsored a study of health effects among residents near Silresim and several control groups in Lowell. The Boston University School of Public Health, responsible for carrying out the study, completed the collection of data during the year, and will submit a report early in the next fiscal year. During the course of the study, investigators found that two companies were emiting large amounts of dimethylformamide near the Silresim site. The original study was expanded to include an investigation of the health status of persons living near these factories.
- Medford A parent, whose child had died from osteogenic sarcoma when a student at Medford High School, submitted a list of students who had reportedly developed cancer while attending the high school. The area hospitals and Boston referral hospitals were asked to notify the Cancer Registry of all Medford residents diagnosed with cancer at ages 13 to 19 during the past eight years. Although all reported cases have not been confirmed, the total number was less than the expected value calculated from the Connecticut Tumor Registry's incidence data.
- Salem Four cases of Hodgkin's disease diagnosed in the past four years were reported by the principal of the Salem High

School. Two additional cases were found through the Salem Hospital Tumor Registry. Thus, six cases in 10 years were verified whereas only 1.6 cases were expected. A report based on interviews with the parents was being prepared.

Environmental Toxicology

The Environmental Toxicology section carried out evaluations of persons exposed to toxic materials such as PCBs and chlordane, and reviewed risks to the public health from exposure to environmental toxins, and other air and waterborne hazards. It conducted the following studies:

 PCBs — A proposal for a two-phase study in the New Bedford-Fairhaven area was submitted to the Centers for Disease Control (CDC) for possible funding under the federal Superfund Act. Phase I would study a random sample of the population for serum levels of PCB to determine extent of exposure. Phase 11 would compare a group with high serum levels of PCB with a group with low levels to determine clinical and laboratory variables thought to be related to exposure to PCB. Word from CDC was expected in the fall of 1983.

A detailed review of the health effects of PCBs in humans and other species was prepared, and criteria for reopening portions of New Bedford Harbor to fishing were developed. A pamphlet about PCBs written for the general public had been prepared by the end of the fiscal year. A sampling program to determine whether the harbor should remain closed to lobstering was established and carried out jointly with the Division of Marine Fisheries.

Late in the fiscal year, the federal Environmental Protection Agency and the Department of Environmental Quality Engineering found several "hot spots" of PCBs on the grounds of a plant in Norwood that had manufactured

capacitors. The Department designed a study to assess possible exposure to residents of the area.

- Chlordane The Environmental Toxicology unit prepared a comprehensive review of the health effects of chlordane, a toxic substance used as an insecticide, for the Pesticide Board Subcommittee, which resulted in restrictions on the use of chlordane. The subcommittee is responsible for registering all pesticide products used in Massachusetts.
- Environmental Impact Reviews — At the request of the Executive Office of Environmental Affairs, the Division reviewed several environmental impact statements for potential health effects. As a result of the Division's recommendation, a project that would have used fill laden with PCBs to create a waterside park in New Bedford was rejected. The Division was also asked to specify what health studies should be done before granting permission to the Boston Edison Company to convert two power plants from oil to coal.
- Other Studies The Environmental Toxicology unit, at the request of the Division of Dental Health, prepared a detailed report on the effects of fluoridation of water supplies on the fetus. The conclusion reached was that fluoride poses no known risk to the fetus and mother at levels of one part per million (1 ppm).

Environmental Hygiene

The Environmental Hygiene section has responsibility for discovering and assessing new technology, such as hazardous waste-siting projects, coal gasification projects, shellfish depuration technology, and indoor pollutants that may affect public health.

• Field Studies — Because of the increased demand for technical assistance despite limited resources, Environmental Hygiene staff had to limit field services and air tests to requests from local boards of health and other government agencies. During the fiscal year, approximately 35 field surveys involving air tests were carried out for such contaminants as carbon monoxide, chlordane, hydrogen sulfide, formaldehyde, asbestos, carbon dioxide, benzene, toluene, xylene, pentachlorophenol, gasoline, and combustible gases. Approximately 30 surveys in schools and office buildings were carried out.

- Environmental Health Emergency Response Environmental Hygiene staff responded jointly with DEQE to six emergencies involving hazardous materials such as vinyl chloride, PCBs, radiation, mixed solvents, and oils. The Division also responded to other emergencies such as highway accidents and contamination of drinking water.
- Urea Foam Formaldehyde Insulation — The Urea Formaldehyde Foam Insulation program was administered by Environmental Hygiene. Several hundred requests for information were answered by both letter and telephone.

RADIATION CONTROL

The Radiation Control Program, which is responsible for the protection of public health from both ionizing and nonionizing sources of radiation, carried out surveys of diagnostic x-ray units in hospitals, private medical and dental offices. Inspections of nuclear medicine departments and of users of radioisotopes were also conducted. Annually, the surveys include offices of 71 radiologists, 256 family physicians, 1,690 dentists, 18 podiatrists, 272 chiropractors, 331 veterinarians, 115 clinics, and 177 hospitals. A special survey program was initiated to study radiation safety efforts of universities and colleges. Program

personnel also surveyed color TV receivers, video display terminals, devices that use lasers, and various consumer products containing radioactive materials.

A major activity during the fiscal year was the implementation of registration of all facilities that have sources of ionizing radiation. Registration was being computerized to aid in scheduling timely inspections. Under the direction of the Executive Office of Administration and Finance, the Radiation Control Program began charging fees for possession of radiation sources registered with the program. The revenue collected during the second half of the fiscal year was approximately \$150,000.

A major activity of the program was the extensive environmental surveillance and inspection of fixed nuclear power stations two in Massachusetts and one in Vermont on the Massachusetts border. Personnel visited the sites every week to ensure the proper operation of monitoring equipment. Thermoluminescent docimeters, placed around each reactor to check data received from the power companies, were replaced quarterly. In addition, the program participated in fullscale emergency exercises of the emergency response plans of the three nuclear reactor facilities.

Staff of the Radiation Control Program, responsible for responding to radiation accidents throughout the Commonwealth, served as the principal coordinators of the Nuclear Incident Advisory Team (NIAT) and participated in monthly training sessions. NIAT includes consultants from academic and industrial institutions throughout the state. All NIAT principal coordinators and consultants participated in a training session.

The Radiation Control Program maintained responsibility for approving plans for radiation protection for all facilities



involved in construction, alterations, or reconstruction. Surveys for these facilities were conducted after completion of work. In addition, personnel served as primary radiation control experts to other state agencies, such as the Departments of Environmental Quality Engineering, Energy, Public Safety, and Transportation, and the Civil Defense Agency.

A major activity of the Radiation Control Program was the adoption of nonionizing radiation regulations. The regulations promulgated by the Department have

now been adopted by the EPA, the National Council on Radiation Projection and Measurement, as well as by the World Health Organization and the responsible agencies of Great Britain and Canada.

The participation of the Radiation Control Program in the National Conference of Radiation Control Program Directors and in the New England Radiological Health Compact permitted the Department to cooperate with the other five New England states in radiation health activities.



COMMUNITY SANITATION

The Division of Community Sanitation is responsible, in part, for monitoring and ensuring compliance with certain chapters of the State Sanitary Code, reviewing sanitary conditions in state and county correctional facilities, rodent and nuisance control, inspecting microwave ovens, and for monitoring fluoridation facilities. The Division also provides consultation on public and semipublic swimming pools and family-type camp grounds.

Staff of the Division inspected each of the 35 state and county correctional facilities at least twice during the year. The Department recommended closing of the East Wing of the Deer Island House of Correction, which the Superior Court subsequently ordered. Major improvements were later made. Basing itself in part upon reports of the Division, the Federal District Court closed the New Man Section of the Massachusetts Correctional Institution at Walpole. Staff also inspected Department of Youth Services Secure Detention Facilities.

The Division received an increased number of complaints concerning inadequate or

improper enforcement of Chapter II of the Sanitary Code, Minimum Standards of Fitness for Human Habitation. Most of the complaints came from inner-city tenants in the large metropolitan areas. The Division worked closely with the Office of the Attorney General on a consumer protection case related to a landlord who was providing substandard housing to nine Vietnamese families in Boston.

Amendments to Chapter II, incorporating suggestions of a multidisciplinary task force and public hearings, were promulgated during the year. The amendments included requirements for smoke detectors, safe levels of asbestos in the home, and for a reduction of hot water temperatures to lower the number of scald injuries.

Spot checks were conducted by the Division's sanitarians during the summer of 1982 at approximately 40 recreational camps for children. All but two were found to be in satisfactory condition. A continuing concern has been the failure of many boards of health to inspect camps before they open. The City of Boston did not provide the required licensing of the approximately 15 camps in the city. Conferences with city officials corrected the problem.

All farm labor camps were inspected and certified for occupancy. The farm labor population was reduced from 455 to 255 as a result of the closing of two of the largest facilities operated by Consolidated Cigar.

In fiscal year 1983, the Boston Rodent Control Program received funds from the Preventive Health and Health Services Block Grant. The program provided concentrated rodent control activities to a 450-block area of Roxbury and North Dorchester. The City of Lawrence has received a similar grant to start a program next year.

DIVISION OF FOOD AND DRUGS

The Division of Food and Drugs is the principal consumer protection agency of state government in the areas of safety of foods, drugs, and other consumer products. Its major responsibilities are to ensure the Commonwealth that:

- Food products and services manufactured or sold within the state are safe and wholesome.
- Drug control and security measures in health care, manufacturing, and industrial settings

- are operative to prevent the illegal diversion of controlled substances.
- Drugs, biological products, medical devices, and cosmetics are safe and properly labeled.
- Hazardous chemicals and injurious pesticides are properly classified, labeled, stored and maintained in a manner to prevent injury to the public.
- Bedding, upholstered furniture, and stuffed toys are properly labeled and fit for human use.
- Impounded animals used in animal research receive proper care and humane treatment.

The routine compliance and enforcement activities of the Division are divided among four general categories of inspections: Food Safety; Drugs, Devices, and Cosmetics; Consumer Product Safety; Miscellaneous.

During fiscal year 1983, staff of the Division conducted 9,165 field inspections, including seafood establishments, retail food stores, restaurants, bakeries, hazardous substances, food processors, food warehouses, and cold storage plants. Staff also spent approximately 800 hours destroying 65,000 illicit drug samples subsequent to final court action.

The Department used the embargo, one of its primary enforcement tools, in 168 cases where there was sufficient evidence to suspect adulteration and misbranding. Destruction of the product was necessary in 60 cases.

As required by applicable statutes, the Division issued 7,761 permits, which generated \$305,274 in revenue for the Commonwealth. New fees and increases in existing fees have been requested by the Division for fiscal year 1984. Other activities of the Division during fiscal year 1983 included:

- Increased Shellfish Compliance and Enforcement — Early in the fiscal year, Massachusetts was implicated in several major outbreaks of foodborne illness. Meetings with New England and other northeastern shellfishproducing states resulted in the joint development of a 10-point plan of action by the Division of Food and Drugs and the Executive Office of Environmental Affairs. As a result, legislation was submitted to make the digging and distribution of contaminated shellfish a felony with greatly increased fines.
- Administration of Medication Regulations were finalized and the process begun to allow medications to be administered by two groups of health workers. Specially trained ambulance attendants employed by qualified ambulance services could now administer medications in prehospital medical emergencies. Dental hygienists and trained monitors of fluoride programs could administer prescribed fluoride treatments to school children.
- Prescription Drug Monitoring The Division coordinated and chaired a Controlled Substance Advisory Committee, composed of representatives from medicine, pharmaceuticals, and law enforcement. The group developed plans for implementation of a multiple-copy system to monitor the prescription of highly abused drugs.

The Division also carried out training sessions for staff both in the laboratory setting and in the field. It improved its hot line teletape information system to provide current information to local boards of health on Division of Food and Drugs policies, interpretation of regulations, technical updates, and selected recall issues.

LEAD POISONING PREVENTION PROGRAM

The Department's Childhood Lead Poisoning Prevention Program (CLPPP) has two major responsibilities: to eliminate lead poisoning among children under the age of six; and to identify, and provide rapid intervention services to, children already affected by elevated blood-lead levels. Education of both health care professionals and the general public is essential to progress in these two areas.

The Division's inservice educational program, "Overview of Childhood Lead Poisoning and Its Prevention," was approved by both the Massachusetts Nurses Association and the Licensed Practical Nurses of Massachusetts for continuing education credits. The program was offered in 21 communities and attended by over 400 health care professionals. Staff members of CLPPP also participated in Grand Rounds at several hospitals in high-risk communities.

During fiscal year 1983, laboratory staff analyzed 93,374 blood specimens for lead or erythrocyte protoporphyrin content. Of these specimens, 3.2 percent had unacceptable levels of lead according to the guidelines of the Centers for Disease Control (CDC). Staff also screened 1,868 children upon request. Program personnel encouraged community nurses to participate in site screenings as preparation for their conducting future screenings independently.

In fiscal year 1983, inspectors in the program inspected 738 dwellings for lead violations and made 2,425 reinspections. To ensure removal of hazards from the children's environment required 1,206 court appearances. Three hundred and sixty-five dwellings were deleaded. Staff also carried out 187 inspections of day care centers upon request. Despite staff turnover and several site accidents, the crisis-intervention deleading crew deleaded eight dwellings.

Urgent and high-risk cases — 570 children in fiscal year 1983 — were enrolled in the case management system to ensure timely and appropriate medical follow-up. Of these children, 359 were newly identified cases. Only 94 children were discharged, an indication of the extensive follow-up required before environmental hazards are abated and blood levels return to an acceptable status.

In addition to the provision of direct services through CLPP's central and regional staff, the Division coordinated the activities of special impact projects funded through the Maternal and Child Health Services Block Grant, and administered through an interagency agreement with the Division of Family Health Services. High-risk areas were identified through the development of a statewide needs assessment process — the first effort to assess systematically the extent of childhood lead poisoning in every community in the Commonwealth. Approximately 10,000 (2.6 percent) children between the ages of six months and five years were estimated to have elevated lead levels.

A total of \$675,000 was granted to five programs, effective April 1, 1983 - three previously funded under categorical grants in Boston, Merrimack Valley, and Worcester, and two new programs, one in Springfield and one serving four southeastern Massachusetts cities under the auspices of Southeastern Massachusetts University. During the last year, the Boston, Merrimack Valley, and Worcester programs conducted 526 initial inspections and deleaded 319 dwellings. This number, added to the 365 dwellings deleaded

through the activities of CLPPP inspectors, brought to 684 the statewide total of dwellings deleaded in fiscal year 1983.

STATE LABORATORY INSTITUTE

The high quality of services provided by the State Laboratory Institute has been built upon a long tradition of research and development, a tradition that continued strongly during the 1982-1983 fiscal year. The responsibilities of the State Laboratory Institute are to provide data to guide policy decisions and to adapt or apply technology to new, improved means of providing public health services. These responsibilities are fulfilled through the management and operation of service and support programs:

 Diagnosis of communicable and heritable diseases

- Surveillance for chemical and microbiological contaminants
- Assurance of availability of biologic products through development and production
- Training and education to improve laboratory service in the state
- Physical plant support and maintenance of the Theobald Smith Services Facility in Jamaica Plain.

The Institute carries out its activities through four major laboratory divisions: Food and Drugs, Newborn Screening, Diagnostic Microbiology, and Biologics. During fiscal year 1983, the State Laboratory Institute performed 569,266 analyses and produced and distributed over one million doses of bacterial vaccines and serums (Table 1), In addition, it stored and distributed over 668,000 doses of viral vaccines and antibiotics, and provided technical and medical training courses for technicians, nurses. and physicians.

Table 1.
Output of Services
July 1, 1982 - June 30, 1983.

Laboratories	TEST OR UNIT DOSES	SPECIMENS OR CHENTS
Food and Drugs		
Food Safety	8,312	8,312
Environmental samples	622	622
Controlled substances	86,340	86.340
Milk laboratory certifications	37	37
Newborn Screening		
Hypothyroidism, PKU, and		
related disorders	163,236	163,236
Urine screening	20,000	20,000
Diagnostic		
Bacteriology	145,484	145,484
Virology	12,844	12,844
Serology	131,701	131,701
Rabies	690	690
Biologics		
Blood Products	198,839	198,839
Vaccines	1,216,039	1,216,039
Total	1,984,144	1,984,144

FOOD AND DRUGS LABORATORIES

The Food and Drugs Laboratories, located in Jamaica Plain and on the campus of the University of Massachusetts, Amherst, analyzed over 93,000 food, water, air and drug samples to support the Department's health protection efforts and the state's public safety programs. The data from the tests provided the basis for regulatory actions, risk assessments, and criminal actions. During the fiscal year, the State Laboratory began to develop analytical capabilities to enable staff to carry out shortand long-term studies to assess environmental contaminants that directly affect human health. Among the studies were the analysis of polychlorinated biphenyls (PCBs) in humans, lobsters, and fish; screening of food for residues of pesticides, and development of test methods for mycotoxins.

The Food and Drugs Laboratories analyzed more than 70,000 samples of controlled substances that were involved in nearly 14,000 criminal cases. A computerized data base was developed that yielded noteworthy improvements in record-keeping. A status report on drug analyses was being prepared for the District Attorneys and District Courts, to be ready in the next fiscal year.

Table 2.

Newborn Screening Laboratories
Hypothyroidism Screening Program
July 1, 1982 - June 30, 1983.

STATE	No. SCREENED	No. Hypothyroid
Connecticut	41,213	5
Maine	16,405	4
Massachusetts	77,922	21
New Hampshire	14,324	3
Rhode Island	13,372	4
Total	163,236	37

NEWBORN SCREENING

The Newborn Screening Program screens all newborns from Massachusetts and other New England states for hypothyroidism and metabolic disorders that are detectable by the program. The diagnoses provide the basis for effective therapy, thereby preventing severe mental and physical disorders.

Hypothyroidism Screening

The Hypothyroidism Screening Program screened 163,236 blood specimens for congenital hypothyroidism during fiscal year 1983. Of this number, 77,922 came from Massachusetts, and 85,314 came from four other New England states (Table 2). Thirty-seven infants who were identified as hypothyroid received early thy-

roid replacement treatment expected to prevent a lifetime of mental retardation.

Metabolic Disorders Screening

Screening of newborn blood specimens for phenylketonuria (PKU) continued to be the mainstay of the program, as it has been since the inception of the program in 1962. The program tested for other inborn errors of metabolism and continued to test for PK II and three other metabolic disorders for the States of Maine and Rhode Island (Table 3). During fiscal year 1983, the program identified 17 infants for early treatment — 10 for PKU, six for galactosemia, and one for homocystinuria. The combined incidence rate for these disorders and hypothyroidism was approximately one in 2,500 new births in Massachusetts.

Table 3.

Newborn Screening Laboratories

Metabolic Disorders Program

July 1, 1982 - June 30, 1983.

	No. Positive								
STATE	No. SCREENED	PKU*	GALACTOSEMIA	MSUD*	Homocystinuria				
Maine	16,405	1	1	0	1				
Massachusetts	77,922	7	4	0	0				
Rhode Island	13,372	2	1	0	0				
Total	107,699	10	6	0	1				



The Urine Screening Program, which tests for metabolic disorders not detectable in blood samples, was the newest addition to the laboratory. An earlier program of urine screening had to be discontinued during a period of recision in federal and state support. At the request of practitioners and parents, a modified program was redesigned and implemented through all Massachusetts hospitals on a usersupport basis. The central expertise, consultation, and data management of the State Laboratory staff were retained.

The effectiveness of a regional, large-scale screening program like the one in New England has been well documented. The large volume of tests has ensured a minimal cost-to-test ratio and superior quality control. Because of the substantial numbers of positive results, staff morale and enthusiasm have been maintained at a peak level.

DIAGNOSTIC MICROBIOLOGY LABORATORIES

The Division of Diagnostic Microbiology Laboratories tested 290,719 specimens from a variety of sources in fiscal year 1983 and identified the presence of pathogenic organisms in more than 45,000 samples. The diagnosis of infective agents such as rabies, salmonella, eastern encephalitis and legionella provided the critical information for effective medical management and control of communicable diseases. Seven functional programs work within the Diagnostic Division: Bacteriology, Virology, Serology, Rabies, Hepatitis, Tuberculosis, and Laboratory Improvement.

• The Bacteriology Laboratory provided specialized and reference services for the diagnosis of rare diseases, routine surveillance of enteric diseases, testing for bac-

terial agents of foodborne outbreaks, and clinical mycology testing services. The laboratory received 145,484 specimens during the fiscal year, of which 31,628 (21.7 percent) were positive. More than one positive specimen may have been received from a single case.

The Throat Culture Program provided physicians and clinics with a rapid, accurate method of identifying group A streptococcal infections, which if unrecognized and untreated by antibiotics, can cause rheumatic fever and acute glomerulonephritis. The program processed 79,972 specimens, of which 15.466 (19.3 percent) were positive for group A streptococci. The Gonorrhea Control Program reported a decrease in the volume of cultures from 53,554 in fiscal year 1982 to 49,835 in fiscal year 1983. Of these cultures, 2,591 (5.2) percent) were positive. The penicillin-resistant strain was isolated 31 times.

The Enteric Pathogens Program, important in the prevention and control of salmonellosis and shigellosis often associated with foodborne illness, tested 11,466 specimens. 42.9 percent of which were positive, an increase of 4.2 percent in the rate of positive findings over last year. The program also identified organisms that cause yersinosis and vibriosis, not common but very serious diseases.

The Special Reference Program tested a total of 3,045 specimens. The services for the diagnosis of rare or exotic diseases and nosocomial, i.e., hospitalassociated, infections, are not available elsewhere. Tests were carried out for Legionnaires' disease (16 cases out of 434 specimens) and pertussis (44 cases out of 271 specimens). As part of an investigation of a patient who was hospitalized with a clinical diagnosis of botulism, laboratory staff isolated C. botulinum type B from the patient's home-made pepper

The Mycology Program provided microscopic and cultural testing for the diagnosis of pathogenic fungi that are responsible for systemic, subcutaneous, and cutaneous mycotic diseases, and for the diagnosis of nonpathogenic "opportunistic" fungi. These may be found in persons who are more susceptible to infection because of treatment with either immunosuppressive drugs or antibiotics. The program, which provides physicians a service not available from other laboratories, found 103 pathogens in 435 specimens submitted for culture. Thirty cases — nine aspergillosis and 21 cryptococcosis - of fungal disease were identified by serologic tests of 522 specimens.

The Bacteriology Laboratory has now served six years as a reference laboratory for the Proficiency Testing Programs for Bacteriology and Gonorrhea of the Centers for Disease Control. The Massachusetts laboratory is one of ten state or private laboratories nationally that are used as a bench mark for all other laboratories in the federal quality assurance program.

The volume of the different kinds of specimens received by the Bacteriology Laboratory appears in Table 4.

• The Parasitology Laboratory identified 55 cases of illness among 213 investigations. The

illnesses included four cases of babesiosis, 21 cases of toxoplasmosis, and 11 cases of blood/tissue parasites. Clinical reports of illness and the high rate (26 percent) of positive findings indicated that enzootic diseases are a greater problem than previously recognized. Tick-borne diseases, such as babesiosis and Lyme disease, appeared to be increasing.

- The Virology Laboratory provided complex tests not routinely performed by other Massachusetts laboratories, for example, the rapid isolation and identification of herpes infections. Other unique tests provide the bases for the Department of Public Health's Eastern Equine Encephalitis surveillance program. In anticipation of a high-risk season during 1983, the laboratory developed a rapid identification test using fluorescent antibody methods. The introduction of the new technology and the installation of a microcomputer for data reports have made the encephalitis surveillance program a model for other states.
- The Serology Laboratory provided routine and reference test services for the diagnosis of syphilis. In fiscal year 1983, the laboratory tested 13,701 specimens, 12,772 (8 percent) of which were syphilis positive. Because "biological" false positive results caused by other coincident dis-

eases or immunological reactions are important to identify, the laboratory performed 12,772 fluorescent treponemal antibody tests to obtain the necessary diagnostic precision.

• The Rabies Laboratory tested animals that were involved in human biting incidents. The prevalence of rabies in bats was also monitored because bat rabies has increasingly moved into urban areas as a serious health hazard. Nearly 700 analyses were carried out during the year. In 25 instances, bats that had bitten humans were proven nonrabid, thus obviating vaccination. In only one instance was a human bitten by a rabid bat. The patient was immunized with human diploid cell rabies vaccine. In January 1983, a 30-year-old man from Waltham was shown by laboratory tests to have rabies, the first case of the disease in Massachusetts since 1935. The case, however, had been contracted by a dog bite in Nigeria in October 1982. The patient died.

Eleven of the bats submitted for examination in the Rabies Laboratory in fiscal year 1983 were positive for rabies, a frequency rate of nearly 10 percent.

- The Hepatitis Reference Laboratory tested specimens referred by hospital laboratories and physicians to aid in the diagnosis of unusual cases. In cooperation with the Department of Mental Health, the Department developed a proposal to screen staff of Mental Health Hospitals for hepatitis before immunization with the newly developed Hepatitis B vaccine so that naturally immune persons can forego vaccination. Funding of the proposal will assure protection for the highrisk group of hospital employees and avoid the unnecessary cost associated with vaccination of immune persons.
- The Tuberculosis Laboratory Program was transferred from a facility operated by the

Table 4.

Summary of Number and
Kinds of Specimens Examined by
Bacteriology Laboratory
July 1, 1982 - June 30, 1983.

SPECIMENS	Number	Positives
Enteric pathogens	11,466	4,923
Food	49	3
Gonorrhea	49,835	2,568
Mycology	957	133
Serology	160	8
Throat cultures	79,972	21,713
Reference/Special	3,045	2,280
Total	145,484	31,628

City of Boston to the State Laboratory during fiscal year 1983. The program will be in full operation before the end of calendar year 1983.

• The Laboratory Improvement Program continued its service program of state-of-the-art training courses for medical technicians, hospital administrators, nurses and physicians. Lecture and laboratory workshops were regularly provided to update the skill and knowledge of health-care providers in the Commonwealth, thus ensuring the delivery of quality services by public and private systems.

BIOLOGIC LABORATORIES

The Division of Biologic Laboratories continued to provide a reliable supply of effective vaccines and serums that prevent diphtheria, tetanus, and whooping cough; treat the physical trauma of accident and burn victims; and protect medicallycompromised children, such as leukemia victims, from lifethreatening infection with chickenpox. The Division produced 1,216 doses of serums and vaccines in fiscal year 1983 and distributed an additional 668,107 doses of vaccines and antibiotics purchased with state and federal funds.

Staff of the Biologic Laboratories developed a totally new product, Bacterial Polysaccharide Immune Globulin (BPIG), to prevent life-threatening bacterial infections in infants too young to be immunized by conventional means. Since last year, the product has been put into clinical trials. Initial results in an exceptionally high-risk group of infants have been promising.

Cytomegalovirus Immune Globulin (CMVIG), a special immune globulin for premature infants that is produced uniquely by the

State Laboratory, has emerged as one of the Institute's most rapidly appreciated contributions. To simplify and permit larger doses of CMVIG, which was shown to protect recipients of bone marrow transplants from life-threatening superinfection with cytomegalovirus, a special formulation for intravenous (IV) administration has now been developed. A clinical trial of the intravenous product (CMVIG-IV) was begun during the year. Initial results have been promising. The laboratory received federal grant support for clinical evaluation of CMVIG-IV in tiny newborns who

require transfusions because of prematurity. Evaluation of CMVIG-IV in babies has just begun.

In addition to the programs managed directly by the State Laboratory Institute, the facility houses other programs of the Department of Public Health—the Division of Food and Drugs, the Childhood Lead Paint Poisoning Prevention Program—and the Racing Commission Laboratory of the Department of Consumer Affairs. The number of people using the facility rose to 600 full-time occupants and 500 visitors daily.



COMMUNITY HEALTH SERVICES

The Bureau of Community Health Services coordinates the activities of the divisions and units that provide a major part of the Department's direct services to the people of the Commonwealth: the Divisions of Family Health Services, Preventive Medicine, Tuberculosis Control, Dental Health, Alcoholism, and Drug Rehabilitation; the Regional Health Offices, and the Office of Community Health Center Services. Over \$85 million of state and federal funds in a variety of programs are annually transferred throughout the Commonwealth on a city, town, or neighborhood basis by the Bureau's administrative divisions. In fiscal year 1983, they awarded 500 individual contracts for a wide range of programs that reflect the Department's strong orientation toward prevention.

FAMILY HEALTH SERVICES

The Division of Family Health Services carries out the Department's programs of community health services for mothers and children, especially those with low incomes or who are at risk for, or suffering from, disabling conditions. Through state funds, federal Maternal and Child Health Block Grant funds, and funds from the Special Supplemental Food Program for Women, Infants and Children (WIC), the Division carries out its responsibilities through two sections -Maternal and Child Health (MCH) Services and Services to Handicapped Children (SHC).

Maternal and Child Health

Three major programmatic units of the Division's Maternal and Child Health Services, the result of the consolidation of four units during the fiscal year, worked to provide mothers and children in underserved neighborhoods with a wide range of preventive services, and to ensure access to health care of high quality.

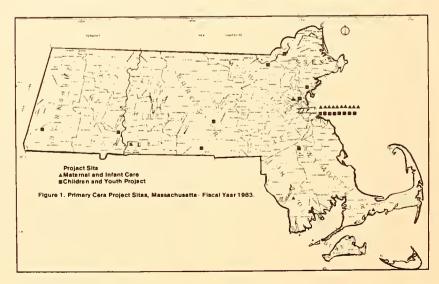
 The Perinatal. Preschool and School Health Unit provided services and support services that focused on the prevention of death, disease, and disabling conditions. In conjunction with the Division of Preventive Medicine, the unit implemented a statewide program to educate and provide diagnostic services to an estimated 150,000 Massachusetts residents who have been exposed to diethylstilbestrol (DES). By the end of the fiscal year, approximately 100 women had been evaluated at seven approved hospitals across the state. The Division paid for 60 percent of the women, who could not afford the screenings.

The unit also pilot-tested a high-risk infant birth-reporting system with five Massachusetts hospitals. When fully operational, the system will consolidate three existing reporting systems and identify 10,000 infants at risk for disease and death. One follow-up and referral system developed by the unit provided over 1,500 infants and families with community-based support servi-

ces, primarily home care.

The Perinatal, Preschool, and School Health Unit continued to support the following services: education and support for the approximately 150 families who. each year, lose an infant to the Sudden Infant Death Syndrome; purchase and repair of hearing aids for 400 eligible children; preschool health services through a multidisciplinary team in 12 towns in the Holyoke-Chicopee area; hearing and vision screening of over 900,000 school-age children, and scoliosis screening of over 160,000 children; through the Massachusetts Poison Information Center, follow-up of 75,000 poison control hotline calls, a tripling of the volume of calls since 1978.

• The Primary Care Unit, through its Maternal and Infant Care (MIC) and Children and Youth (C&Y) Projects, provided comprehensive prenatal and pediatric multidisciplinary care to high-risk, low-income mothers and children. Medical care, augmented by social, nutritional, family planning, dental and other preventive health services, were made available. In fiscal year 1983, contracts were awarded for 14 MIC and 17 C&Y projects serving areas of high need in the state as determined by an assessment that ranked every city and town in Massachusetts (Fig. 1). These 31



projects, funded as of January 1, 1983, will serve 3,200 pregnant women and 45,000 children on an annual basis, an increase of approximately one-third over the previous 20 projects. Data from the MIC Projects for calendar year 1982 indicated that the programs were reaching a high-risk group — 31 percent of the women were under age 19 at time of delivery, 64 percent were unwed, 46 percent over age 20 had not completed high school, and 65 percent were nonwhite. The Divisions of Family Health Services and Preventive Medicine collaborated in developing smoking cessation programs in these agencies, with the aim of reducing low birth weight infants. For women who reported regular use of tobacco, the rate of low-weight births was 11.6 percent as compared to 6.8 percent for nonsmokers.

Comprehensive Adolescent Health Programs provided health care for 11,000 adolescents. In addition, 11,000 teens, parents, and professionals received educational services on such topics as nutrition, contraception, adolescent pregnancy, and substance abuse; 800 pregnant and parenting teens received health care, education, counseling and other support services through programs funded by both state and federal MCH block grant funds.

• The Special Supplemental Food Program for Women, Infants and Children, more commonly known by its acronym WIC, provided over 40,000 women and children under the age of five, who were determined to be at nutritional risk, with food packages, nutritional counseling, and referral for health care. This number represented a 25 percent increase over the number of participants in the previous fiscal year. The Massachusetts WIC program received a \$240,000 grant from the U.S. Department of Agriculture (USDA) to design and implement a system to identify vendors most likely to be

abusing the program. Massachusetts is the lead state in a 10-state consortium established by USDA to deal with vendor fraud and abuse. The state's program, it has been estimated, will save nearly \$500,000 annually.

Services to Handicapped Children

Four units within the Division's Services to Handicapped Children provided services to prevent, identify, and treat handicapping conditions, with emphasis on providing support necessary to keep children at home or in the community.

- The Genetics Services Unit provided genetic testing, screening, diagnosis of, and counseling to, children in the SHC's clinics. In fiscal year 1983, the unit funded a hotline to provide information on the effects of hazardous substances on the health of pregnant women and their unborn children. From December 1982 through June 1983, more than 600 calls were received by the hotline: 470 came from pregnant women, a smaller number from spouses and relatives, and the remainder from health care professionals and other agencies (Table 5).
- The Community Services Unit provided a range of special-

ized support services to multiply handicapped children and their families, including developmental day care, integrated preschools, camperships, respite and home care. In fiscal year 1983, the Division of Family Health Services became responsible for early intervention (EI) programs when the EI programs of the Department of Mental Health were transferred to the Department of Public Health. A grant of \$700,000 from the state legislature allowed for an expansion of services to 2,300 children from birth to three years of age.

A state appropriation allowed the unit to provide funds to families who wished to care for their respirator-dependent children at home. The Division also worked closely with the Massachusetts Medicaid program to take advantage of a federal option to provide Medicaid coverage for services to these children, and to determine how Medicaid could adopt a long-term solution to home care for the chronically ill child.

The unit also expanded its multidisciplinary Medical Review Team to include representatives from other state agencies. Through interagency cooperation and coordination, the Medical Review Team helped to prevent

Table 5.
Environmental Hot Line
Requests from December 1982 through June 1983.

	NUMBER OF
Type of Information Requested	REQUESTS
Prescribed medications	216
Environmental and chemical exposure	174
Radiation exposure	83
Occupational health hazards	69
Congenital defects	36
Illegal drugs	34
Alcohol	30
Infections	29
Smoking	18
Others	83
Total	772

unnecessary institutionalization of severely handicapped children.

- The Clinic Unit, through specialized clinics directly operated by the Division, or from which services were purchased, provided comprehensive multidisciplinary habilitative services to 6,210 severely handicapped children during fiscal year 1983; the daily caseload was approximately 4,800.
- The Case Management Services Unit (CMSU), which became operative on October 1, 1982, integrated the activities of the Supplemental Security Income-Disabled Children's Program (SSI-DCP). The unit, operating in each of the four regional health offices, and a fifth in Boston, provided technical assistance. training, advocacy and development of individual service plans for children receiving SSI and their families. These services have been extended to other handicapped children enrolled in SHC programs.

Needs Assessment

The Division of Family Health Services continued to strengthen its capacity to evaluate maternal and child health needs and problems. The resultant assessments have been used to plan services and develop policies. In conjunction with the Department's Childhood Lead Poisoning Prevention Program, the Division developed a needs assessment to guide allocation of funds for the prevention of lead poisoning.

Following reports in the media of increasing malnutrition among Massachusetts children, the Division began a survey of the nutritional status of children in the Commonwealth. The Massachusetts Nutrition Survey studied children under the age of six in areas of the state at high risk for child health problems. Data were collected on height and weight, blood sample indicators, and socioeconomic status. Analysis

and publication of the results will be ready in the fall of 1983.

Research and Demonstration

The Statewide Childhood Injury Prevention Program (SCIPP) completed its third year under a grant from the federal Office of Maternal and Child Health to study childhood injuries and to develop strategies to reduce their frequency. During the fiscal year, SCIPP continued to evaluate the results of its demonstration projects in 14 communities in the state. Preliminary findings on the extent, nature, and cause of childhood injuries have been published; one article appeared in the New England Journal of Medicine, October 14, 1982. By the end of the year, the Division had begun to plan for the development of an Injury Prevention Resource Center to provide information and technical assistance, coordination, and evaluation of existing activities to prevent injuries, and to develop new programs on a statewide basis.

PREVENTIVE MEDICINE

During fiscal year 1983, the Division of Preventive Medicine continued its efforts to reduce unnecessary morbidity and mortality among the people of the Commonwealth through a comprehensive program of risk reduction, health education, and preventive health services. It geared its efforts to the needs of high-risk, underserved populations and communities, as well as to the overall requirements of the general public for health information.

Program Administration

The Division continued to play a key role in the administration of the Preventive Health and Health Services Block Grant. Working with departmental program directors and the Task Force on Prevention, the Division developed the state's grant application and assisted in the implementation of block grant hearings.

Research and Evaluation

The Research and Evaluation Unit worked with Division staff in the implementation of a number of program studies and ongoing research projects, and recorded the following achievements:

- A one-year follow-up evaluation of the public employee health promotion program, Lifestyle, was conducted. Significant improvement in key indicators of cardiovascular health status among participants was recorded.
- A methodology was developed for combining socioeconomic variables into a predictive analysis of prevalence of risk factors. The methodology was applied to the data from the Massachusetts Health Interview Survey to yield more useful information on needs assessment of the state's population.
- The Division began to offer a Health Risk Appraisal service to Massachusetts corporations, hospitals, and other institutions interested in developing inhouse health promotion programs.
- In collaboration with the Child Passenger Safety Resource Center, research staff conducted a statewide survey of car seat and seatbelt use among children. College students, working as field observers, recorded and analyzed the behaviors of nearly 1,800 child passengers at 11 project sites. They also identified the important relations between age and sex of the driver and passenger, and the use of seatbelts and car restraint systems.
- A study of over 300 clients of the hypertension control program found that patient follow-up and monitoring, when done in compliance with program protocols, yielded significant drops in sys-

tolic and diastolic blood pressures.

• A detailed study of public opinion regarding the control of cigarette smoking in public places was completed. The results indicated widespread public support for heightened measures that would further restrict smoking in public places.

Preventive Health Services

The Division supported programs that identify, serve, and follow-up specific populations and occupational groups for whom the risks of chronic disease and disability are great. Four specific programs were operating in fiscal year 1983:

- Lifestyle, the Public Employee Health Project, a comprehensive health promotion program at the worksite, reached approximately 500 employees from 17 state agencies and three executive offices. Activities of the program, which were available to selected agencies in two downtown Boston locations, included a medical/physical assessment of health risks, lifestyle counseling, educational presentations and workshops, and exercise classes.
- Resource Centers for Firefighter Fitness were operating at Bridgewater State College (BSC) and the University of Massachusetts (UMASS) at Amherst. The BSC Resource Center entered its third year of operation; the UMASS Resource Center began its activities with the Amherst police and fire departments in January 1983. The Centers provided health-fitness testing, education, training and technical assistance in implementing fitness programs for public safety personnel. The establishment of the UMASS Resource Center made available statewide intervention at the worksite to improve levels of fitness of firefighters and police, thus reducing disability due to heart disease.



 Comprehensive Community Hypertension Control Programs were functioning in 11 communities. Agencies funded by the Division to provide services included community health centers, hospitals, visiting nurse associations, and local boards of health. Screening was carried out at both worksites and other locations in the communities. During fiscal year 1983, the projects screened 10,840 residents of the Commonwealth. Data indicated that 20.6 percent of the population screened had elevated blood pressures at the initial reading. The projects reached more minorities and persons with less than a high

school education than they had in previous years; 25.2 percent were nonwhite, and 27.8 percent of all persons screened had less than 12 years of schooling.

• Women's Health Services were expanded during the fiscal year. The Division funded eight rape crisis centers across the state that provided counseling services, advocacy, and public education programs in their communities. The Women's Health and Learning Center for incarcerated women held workshops and counseling sessions in such areas as substance abuse, women's health, childbearing, job skills and job readiness, and family violence.



During the fiscal year, the Division began to develop a curriculum for use in schools and community settings that would decrease the prevalence of family violence by increasing the abilities of persons to identify, and cope with, stress by constructive and nonviolent means.

Health Promotion Services

- The Child Passenger Safety Resource Center played a major role in raising awareness of the serious health risks to children riding unrestrained in motor vehicles. The Resource Center trained health professionals, law enforcement officials, and persons in community organizations in the implementation of the child passenger safety law. Educational materials directed to specific groups were prepared and distributed statewide. During fiscal year 1983, the first statewide child passenger safety conference attracted 115 persons to its lectures, workshops, and exhibits.
- The Massachusetts Nutrition Resource Center continued to offer referrals and free information on nutrition to consumers and health professionals through a hotline and mail request service, which was expanded statewide by the establishment of a toll free 800 telephone number. During the fiscal year, consumer and provider contacts through the Nutrition Hotline increased by 65 percent over the previous year to more than 6,500; contacts through mail requests increased by 58 percent to approximately 2,300.
- Diethylstilbestrol (DES) Campaign was carried out in conjunction with the Division of Family Health Services. The activities of the Division of Preventive Medicine included the statewide distribution of educational materials, feature articles, and posters to libraries, women's organizations, and health care providers, and radio and television announcements. The mate-



rials informed the general public about the drug and urged persons exposed to seek diagnostic services.

- The Media Resource Center was established in fiscal year 1983 to bring together the skills required to develop effective public health education programs. The Division used the center to provide the consumer with accurate and dependable information on a number of health issues, including:
 - The Smoking Break, Channel 22, Springfield. This step by step guide to quitting smoking was conducted by a news program personality in western Massachusetts. Approximately 2,000 viewers participated in the program and an estimated 30,000 smokers were reached.
 - Rape Prevention. The Division supplemented its direct service efforts with a statewide public education campaign on the myths and values surrounding rape as a violent crime. Three public service announcements were produced for broadcast by television stations across the state.
- Smoking Prevention and Cessation. The Division funded two teacher-training programs to develop and implement tobacco

and alcohol abuse prevention programs. The Commonwealth Inservice Institute and the state teachers college programs involved almost 500 teachers statewide. During the fiscal year, the Division of Preventive Medicine and the American Lung Association cooperated in two major projects: a training program for health care providers who might intervene with their pregnant patients who smoke; and the development and publication of the Non-Smokers' Guide to Massachusetts. Designed to assist Massachusetts residents who are concerned about the quality of indoor air, the Guide lists restaurants that have nonsmoking areas, health care facilities with policies related to smoking, and insurance companies that offer discounts to nonsmokers.

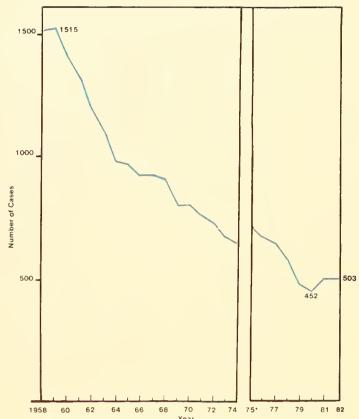
TUBERCULOSIS CONTROL

The Division of Tuberculosis Control has primary responsibility for the surveillance of tuberculosis in the Commonwealth, as well as for the development of programs to treat and control the disease.

Tuberculosis had been on a continual decline in Massachusetts from 1959 through 1980. Reported cases of tuberculosis, however, suddenly increased in mid 1981 through calendar year 1982, accounting for an increase of approximately 12 percent over 1980 (Fig. 2). The number of newly diagnosed cases reported by physicians in calendar year 1982 totaled 503, an increase of 51 over the 452 cases reported in 1980. The 1982 case rate also showed an increase from 7.8 per 100,000 population to 8.76.

The Division initiated new activities and strengthened continuing programs to reverse or prevent further increases in tuberculosis in the Commonwealth. New activities included:

- Implementation of the new tuberculosis surveillance system, which defines five Tuberculosis Surveillance Areas (TSA) covering every city and town in the state. A public health nursing advisor in each TSA coordinates, with the Central Case Register, all information among local boards of health, physicians, tuberculosis clinics, and hospitals.
- Testing a new automated Central Tuberculosis Case Register to replace the manually operated case register.
- Operation of a federal grant program, awarded to the Division because of the high prevalence of tuberculosis among refugees, to provide tuberculosis control services to the large refugee population in the state. The Division purchased outreach services and services of a bilingual interpreter to assist tuberculosis clinics and boards of health in the examination, treatment, and follow-up of refugees with the disease who do not speak English. The Division also conducted an inservice training program for bilingual workers and employees of local boards of health.



Year
Figure 2. Number of Reported Cases of Tuberculosis in Massachusetts, 1958 - 1982.
*Netionel Criterie for Reporting Tuberculosis Cases Change, Jenuery 1, 1975; Not a True Increase In Cases Over 1974.

- Conducting a Public Health Rounds on March 31, 1983, devoted to the health problems of refugees.
- Cosponsorship of a program on September 16, 1982, at Lakeville Hospital to honor the 100th anniversary of the discovery of the tubercle bacillus by Robert Koch.

During the fiscal year, the Division continued to provide the following services:

- A network of 10 inpatient and 32 ambulatory programs in community hospitals to make tuberculosis diagnostic and treatment services available and accessible to residents of every city and town in Massachusetts. Programs provided 3,512 hospital days of treatment and 23,418 outpatient visits.
- Contractual purchase and distribution of tuberculosis drugs for treatment and preventive therapy through tuberculosis clinics.

- Contractual purchase and distribution of tuberculin-testing supplies for 200,000 tests through local boards of health.
- A central bacteriologic laboratory to provide statewide tuberculosis diagnostic and treatmentmontioring services to physicians. The laboratory processed 33,700 specimens in fiscal year 1983, an increase of 5.6 percent over the previous year.
- Maintenance of a manual statewide case register for the surveillance of tuberculosis, with a reciprocal exchange of information with states and the federal government. More than 1,000 patients were on the case register, in addition to 7,000 contacts of cases reported annually.

DENTAL HEALTH

The Division of Dental Health, the responsible state agency for the prevention and control of oral disease in Massachusetts, continued its work in these areas:

 Prevention of Oral Disease — The Division continued to make great strides in promoting and improving the quality of fluoridation during the fiscal year. Funds from the Health Prevention Block Grant were used to assist fluoridation activities of the cities and towns. The Division purchased fluoridation equipment or compound for 18 communities that had initiated fluoridation during the past two years. Four communities, Lowell, Marlborough, Peabody and Lawrence, began fluoridating for the first time with equipment provided by the Division, which also purchased replacement equipment for cities and towns that had been fluoridating for a number of years so they could achieve optimum levels. Total approximate population of all communities assisted was 650,000.

In conjunction with the Division of Community Sanitation, the Division of Dental Health worked to improve the quality of fluoridation statewide. Four twoday training courses for waterworks personnel were held throughout the state; 126 water operators were trained. A laboratory proficiency-testing program was established to ensure the accuracy of testing done at the local level. Of the 6,000 fluoride test samples reviewed, the mean fluoride level statewide was 0.97 parts per million (ppm), the closest to the recommended optimum level for any given year.

During the year, seven boards of health, representing over 300,000 people (12 percent) of the state's nonfluoridated population, ordered fluoridation for their residents. Two orders went unchallenged and fluoridation will begin in 1984; three were challenged, went to referenda, and fluoridation was rejected. Springfield and Chicopee were expected to decide on fluoridation in the fall of 1983.

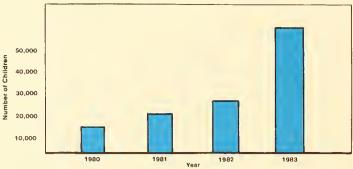


Figure 3. Number of children perticipeting in the school fluoride mouthrinse program in Messachusetts.

At the end of the fiscal year, 3.1 million Massachusetts residents were reaping the benefits of fluoridation. A potential savings of \$45 million in dental care costs was realized because of fluoridation's preventive effects.

Enrollment in the school-based Fluoride Mouth-Rinse Program, in its fourth year of operation, doubled to bring the total number of children to 60,000 and the number of communities to 87 (Fig. 3).

 Dental Care — The Division assumed responsibility for the dental care programs of the Division of Mental Retardation of the Department of Mental Health, and began providing dental services to persons with developmental disabilities who are either residents of the state schools, or community residents who are unable to obtain care from local dentists. It also operated a preventive dentistry outreach program that provided preventive care, case finding, and referral services for developmentally disabled persons served by community programs. A treatment fund was established to purchase care from community dentists for clients not eligible for Medicaid, or from specialized dental services not covered under Medicaid.

The Division contracted with Tufts University Dental Facility for the Handicapped for the provision of services at seven clinics located on the grounds of the state schools, the Hogan and Berry Regional Centers, and a specialty inpatient service at the Shattuck Hospital.

During the fiscal year, 5,713 persons received services at one of the dental facilities. Of these patients, 68 percent were residents of the state schools. During the year, there were 24,028 patient visits, an increase of 5 percent over the previous year. The Division also incorporated a new, quality assurance and utilization review system to monitor and evaluate services provided at the dental clinics, and contracted with the National Foundation of Dentistry for the Handicapped to provide preventive care, case finding, and referral services for community

The Division continued to work with the staff of the Department of Public Welfare to improve the professional review system for approval of dental service and supervised the dental consultant staff. The Division entered into agreement with the Department of Youth Services to provide care to residents of the Donnelly Youth Center in Roslindale, and worked with the Department of Public Health's Massachusetts Hospital School to revamp its dental program.

• Training and Education — With support from the Area Health Education Center in Worcester, the Division surveyed dental hygiene programs of the five community colleges and provided technical assistance in improving their continuing education curric-

ula. The Division continued to provide training in public health to residents and students of the Harvard Schools of Public Health and Dental Medicine.

• Research and Demonstration — The Division was awarded funds by the federal Office of Maternal and Child Health for two special projects to begin in 1984: to promote use of dental sealants for prevention of tooth decay among children, and to improve the ability of private dentists to care for developmentally disabled persons.

DIVISION OF ALCOHOLISM

During fiscal year 1983, the Division of Alcoholism reviewed and evaluated how the block grant mechanism of disbursement of federal funds would facilitate one cohesive network of services in the state. By reducing the higher funding level of earlier federal projects and spreading dollars more evenly across the state, the Division was able not only to maintain most of the previous projects but to add six halfway houses, 11 outpatient programs, and one driver alcohol education program to the basic service system.

The issue of drunk-driving continued to receive major attention as a result of the passage of new legislation to increase penalties for second and multiple offenses. Changes were made in the Driver Alcohol Education Programs, especially in the Phase I model of care, to include a more intensive diagnostic evaluation and an after-care management for every client completing the program. The emphasis has now been placed on developing more individualized plans of treatment according to needs of clients, and referrals to existing outpatient and other approved facilities for treatment.

In a policy paper entitled, "Expanding Free-Standing, Inpatient Alcoholism Treatment Programs as an Alternative to Hospital-Based Programs," the Division supported the expansion of a system of free-standing, inpatient alcoholism treatment facilities, but only with the assurance that Blue Cross would recognize the reimbursement of free-standing settings. The paper reflected the Department's concern about cost control of health care.

During the fiscal year, the Division carried out the following activities:

- Funds for 36 projects for primary prevention and early intervention were made available. The amount allocated \$1,372,771 exceeded the minimum 20 percent commitment required for block grant funds.
- A major primary prevention effort, the "Prom Campaign," which focused on high school students, was expanded during the year. The Division also expanded its approaches to newspaper, television, and other forms of promotion. These included participation in the National Institute on Alcohol Abuse and Alcoholism media campaign for women and youth, use of the Goodyear blimp with the message, "Friends Don't Let Friends Drive Drunk," and billboard advertising on Massachusetts roadways with a message for women to help them develop skills in how to refuse to drink.
- The Division enhanced its commitment to underserved populations by funding the Community Training and Resource Center, a minority agency, to provide technical assistance, training, and education to agencies around minority issues. In addition, the Division allocated \$3,526,394 to fund 17 projects for youths, five programs to address the needs of the Spanish-speaking community, 26 women's programs, and special services for the elderly.

- The Division allocated over \$2 million to fund 34 special projects, among them, three short-term, intensive rehabilitation programs, and two public inebriate projects.
- The Division supported 22 detoxification centers for a total of 132,980 bed days, 55 halfway house programs for a total of 264,466 bed days, and 47 outpatient programs for a total of 54,279 individual and 35,359 group sessions. The Division also funded 28 driver alcohol education programs for a total of 14,500 service units. These clinical services, combined with the efforts of the eight regional primary prevention centers and the 34 special projects, brought secondary and tertiary alcoholism services to approximately 100,000 persons.

DIVISION OF DRUG REHABILITATION

The Division of Drug Rehabilitation, established by legislative action in 1963, was formally returned to the Department of Public Health from the Department of Mental Health in 1982, after an absence of 12 years. The move was a response, in part, to the recognition of the appropriateness of locating the state's drug abuse and addiction treatment and prevention agency in a public health environment.

The Division has historically funded a variety of treatment modalities and prevention services, which fall into six categories:

- Residential Detoxification Services, which provide detoxification to the addicted person whose addiction is such that detoxification poses a medical risk.
- Outpatient Methadone Detoxification, a short-term service (21 days) offered to the opiate-addicted to prepare them for continued, preferably drugfree, treatment.

- Outpatient Methadone Maintenance, a service to the opiate addict who requires chemotherapy beyond the 21-day detoxification, as well as a structured counseling program.
- Residential Drug-Free Treatment, for persons unable to remain drug-free while residing in the community, and who need a long-term, highly structured, goal-oriented rehabilitation program.
- Outpatient Drug-Free Counseling Services, for drug dependent or abusing persons who can benefit from regularly scheduled counseling services to help them maintain a drug-free life style.
- Preventive Services, a wide range of activities designed to prevent persons from moving along a continuum of risk.
- Special Projects, such as counseling for the incarcerated, vocational education, and day treatment.

In its transitional year, the Division has accomplished two major goals: the development of a centralized fiscal and administrative capability, and the maintenance of the existing network of treatment and prevention services. In 1983, the Division conducted a statewide Request for Proposals for purchase of service dollars. Programs were selected on the basis of quality of the proposal, distribution of services throughout the state, cost effectiveness and commitment to stability and continuity in current levels of basic services. The process allowed the Division to begin an accurate and informative data base necessary for maintaining a comprehensive delivery system of high-quality services.

As the fiscal year 1983 came to a close, the Division of Drug Rehabilitation looked forward to working with providers and interested citizens to alleviate the human damage resulting from

substance abuse and addiction, and to promote a healthful freedom from drug abuse, dependency, and addiction.

COMMUNITY HEALTH CENTER SERVICES

In fiscal year 1983, the legislature appropriated \$1 million in new funds for the operational support of community health centers, which provide comprehensive primary health care to a defined service-area population, Included in the appropriation was funding to support the cost to the Department of administrating the new program. The Office of Community Health Center Services was established with a dual purpose: to plan, implement, and manage the community health centers' grants program; and to develop and coordinate departmental policy affecting community health centers with other governmental and provider organizations.

In fiscal year 1983, the Massachusetts League of Community Health Centers (MLCHC) reported 70 such organizations across the state. After consultation with MLCHC, the Department issued a Request for Proposals to the 70 community health centers under the new grants program. Forty-seven applied for funds and 37 were funded. Programs funded fell into one of five categories: dental services, obstetrics and gynecology, pediatric and adolescent care, social services, and primary care.

REGIONAL HEALTH OFFICES

The scope of activities of the Department is reflected in the local health services provided by the four Regional Health Offices in the state. These offices coordi-

nate the Department's general field activities and act as intermediaries between central service programs, local health agencies, and citizen groups. As representatives of the Commissioner, the regional health officers inform the Department of the local political, demographic, and social changes in, as well as the health needs of, their regions.

To the extent that resources were available, regional staff carried out their multifaceted activities and responsibilities. These can be summarized as follows:

- Technical assistance for sanitary programs and consultations on nursing, social work, and nutrition programs.
- Regulatory application and regulations of the State Sanitary Code and Food and Drug laws; inspection of prisons and certification of migrant labor and recreational camps.
- Direct patient services the provision of either direct services or contracts with other medical agencies. These activities include the programs of the Services to Handicapped Children, rehabilitation programs, family planning, and other programs of the Divisions of Family Health Services, Preventive Medicine, and Dental Health.
- Inservice educational programs for local nurses, sanitarians, nutritionists, physical therapists, social workers, and members of local boards of health.

During fiscal year 1983, the Regional Health Offices made great strides not only in working more closely with local boards of health, but also in organizing new health promotion programs and in planning and promoting a greater sharing of regional resources. Examples from each region indicate the diverse activities of all the Regional Health Offices:

- Central Region Lead paint inspectors carried out the following activities: screenings, 292; housing inspections, 154; reinspections, 345; inspections of day care centers, 12; houses deleaded, 47; court appearances, 110; educational seminars, 2. Only one child with elevated blood-lead levels was hospitalized during the fiscal vear, a concrete example of the effectiveness of the lead paint poisoning prevention program. Thirty-five communities, an increase of seven over the previous year, participated in the Fluoride Mouth-Rinse Program, which reached 12,709 school-age children in 63 schools.
- Northeastern Region The specialized clinics in the network of Services to Handicapped Children, as well as contracted programs and case management services, continued to make a range of services available to children and families at risk. The clinic population declined in fiscal year 1983 as a result of continuing efforts to discharge patients over 18 years of age, and of fewer referrals to the cardiac and orthopedic clinics. Scoliosis clinics, however, exceeded capacity; new clinics were being scheduled to meet the increased demand. In addition to staffing all clinics, five social workers made 200 home visits, attended about 20 core evaluations under Chapter 766, and made approximately 55 contacts with other human services agencies.
- Southeastern Region
 With the transfer of the Case
 Management Services Unit from
 the Office of Children to the
 Department of Public Health, the
 southeastern Regional Health
 Office added five more employees
 to its staff to handle a caseload of
 over 900 children with varying
 degrees of handicaps. An occupational therapist and a sanitarian
 were also added to the office to
 handle the many requests for
 assistance. Working with the

- other regional health offices and the Division of Preventive Medicine, staff began to develop a set of model standards for local boards of health. The standards were intended to help the Department measure the capability of local boards to deliver services of high quality.
- Western Region The model Ouabbin Health District successfully completed its third year, with the Regional Health Officer acting as liaison for the Department and as contract monitor. Formed by the Towns of Belchertown and Ware in 1980, the District formally added the Town of Pelham after approval by its June 1983 Town Meeting. Funded in part by the Department, the Quabbin Health District completely fulfilled its contracted obligations, including certification and operation of a laboratory in Ware, which began testing water samples (total and fecal coliform counts) from surrounding towns.

COMMUNICABLE/ VENEREAL DISEASE CONTROL

The Division of Communicable and Venereal Diseases carries out the health protection activities that are the direct responsibility of state government. These encompass health surveillance and disease control to guard the health of the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and the assessment of threats to the population.

COMMUNICABLE DISEASE CONTROL

The statewide immunization programs of the Department, which expanded as new vaccines became available, continued to record progress in controlling measles, mumps, and rubella:

- Measles Four cases of measles, all of which were imported, were reported in calendar year 1982. Massachusetts is now measles free.
- Rubella Two cases of rubella, one indigenous and one imported, were reported in calendar year 1982. By the end of calendar year 1983, Massachusetts was expected to be rubella free.
- Mumps Seventy-five cases of mumps were reported in calendar year 1982. During the six-month period of January through June 1983, 17 cases were reported. Massachusetts was therefore not expected to be mumps free until the end of calendar year 1984.

The Department will be able to maintain this record as long as it continues to immunize 100,000 children each year with the measles/mumps/rubella (MMR) vaccine. The program of immunization has not only prevented illness and death, but has saved the Commonwealth over \$19 million annually in actual costs for medical care and institutionalization of patients.

Massachusetts, which has been on a maintenance immunization program against polio since polio vaccine became available, is also polio free. The last case of reported polio was in 1968. The Commonwealth will continue to be polio free as long as the Department administers 450,000 doses of trivalent Sabine oral polio vaccine annually. The annual immunization survey of children (65,958) entering kindergarten in September 1982 showed more than 98 percent had already received three or more doses of polio vaccine. The percentage of these children immunized against polio and the six other immunizable diseases

Table 6.
Percentage of Immunized Children Entering Kindergarten
1974 - 1983.

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	Percent Increase Over 1973-74
DTP*	88.6	93.51	95.04	96.21	95.82	96.99	97.57	98.10	97.88	98.37	11.03
Polio	86.2	92.04	94.10	95.84	94.25	97.50	97.95	98.13	97.71	98.07	13.77
Measles	90.3	93.53	94.60	96.21	98.32	98.60	98.86	99.09	98.82	99.07	9.71
Mumps	59.3	69.19	78.00	84.56	89.83	92.79	98.69	99.06	98.79	99.06	67.05
Rubella	62.0	70.41	78.51	84.55	90.04	93.32	98.67	99.06	98.79	99.06	59.77

*DTP = Diph(heria, Tetanus, Pertussis (Whooping Cough)

showed impressive increases over 1973 (Table 6).

During the 1982-1983 school year, the Division of Communicable and Venereal Diseases also surveyed more than 90,000 school health records of new children entering grades one to 12 in both public and private schools in all 595 school systems. Immunization levels for these children were: DTP, 95.62 percent; polio, 95.70 percent; measles, 96.76 percent; mumps, 90.36 percent; and rubella 91.14 percent. The Division continued its survey of children (71.097) in day care centers and found substantial increases over the previous years (Table 7).

Influenza activity during the 1982-1983 season was moderate in Massachusetts. During the fall of 1982, the Division distributed 215,000 doses of influenza vaccine

for use among high-risk groups, especially senior citizens and other persons, regardless of age, who had a chronic disease. An unprecedented 206,532 high-risk persons were reported immunized through the Division's network of providers. As in the past two years, the influenza vaccine was well tolerated, and no reports of adverse reactions were received. Most of the cultures isolated were A Bankok, although there were some B Singapore toward the end of the flu season.

Despite the availability of the pneumococcal pneumonia vaccine since 1978, pneumonia and influenza deaths remained a cause for concern. Nationwide, pneumonia and influenza-related deaths exceeded the expected threshold for a record number of 15 weeks. Preliminary data from the Department, however, indi-

cated a substantial decline in the pneumonia and influenza mortality rate for Massachusetts as compared to the rate during the 1980-1981 flu epidemic year.

During fiscal year 1983, seven cases of babesiosis, a malaria-like illness, were reported: five from Nantucket, one on Martha's Vineyard, and one from Barnstable.

Lyme disease, caused by the bite of an infected deer tick, has been appearing on Cape Cod and the Islands. Last year, seven cases were reported from Essex County.

VENEREAL DISEASE CONTROL

In accordance with national standards, the Division of Communicable and Venereal Diseases has concerned itself with the 16 sexually transmitted diseases, but

Table 7.
Percentage of Immunized Children in Day Care Centers
1975 - 1983.

	1975-76	1976-77*	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	Percent Increase Over 1975-76
DTP**	86.73	_	90.99	94.23	95.60	95.94	96.29	96.77	11.58
Polio	85.71		89.83	94.91	96.13	96.70	96.87	97.52	13.78
Measles	89.31	-	93.22	95.83	96.79	97.54	97.83	98.11	9.85
Mumps	77.27	_	85.93	92.78	96.28	97.29	97.79	98.07	26.92
Rubella	76.00		85.36	92.46	96.27	97.31	97.77	98.03	28.99

^{*}No survey had been conducted in 1976-77.

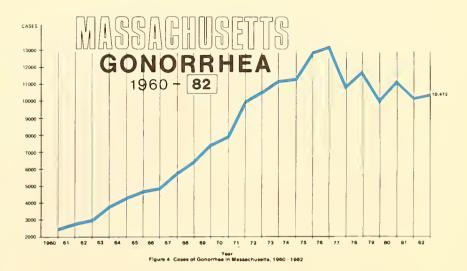
^{**}DTP Diptheria, Tetanus, Pertussis (Whooping Cough).

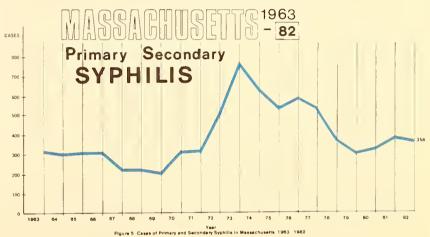
since 1981 it has added a new disease - Acquired Immune Deficiency Syndrome (AIDS). Of these diseases, eight - gonorrhea, nongonococcal urethritis, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, scabies and AIDS — are epidemic in Massachusetts and in the nation. Massachusetts had one and one-half cases of male nongonococcal urethritis to one case of male gonorrhea, whereas, nationally, the incidence of both diseases was the same. Genital herpes continued to comprise 3 percent of the total number of clinic visits. The epidemic of the disease, which had begun in the late '60s and '70s, reached a plateau through December 31, 1982.

The 10,472 cases of gonorrhea reported in calendar year 1982 represented an increase of 1.5 percent over the previous year (Fig. 4). Gonorrhea continued to be the number one communicable disease in the state.

For calendar year 1982, the reported number of cases of all stages of syphilis was 987, an increase of 1.2 percent over the 975 cases in the previous year. Cases of primary and secondary syphilis accounted for nearly 39 percent of the cases (Fig. 5). An important factor in the Division's efforts to control the disease was the syphilis interview-contacttracing procedure, used by the Division's staff in the 18 cooperating state venereal disease clinics with 93 percent of the 649 early syphilis cases reported to the Department of Public Health. A total of 1,389 sexual partners of infected patients were found through the interview process. Of this number, 86 were found to be infected with the disease, 615 were recipients of epidemiologic treatment, and 256 were determined to be not infected, or previously treated for the disease.

The federal grant for venereal disease control was renewed for \$426,800 for 1983. Main emphasis





was on the screening of asymptomatic women for gonorrhea, and the refinement of an effective initiative for gonococcal pelvic inflammatory disease (PID). During calendar year 1982, the program examined 113,592 women for gonorrhea at approximately 100 participating facilities. Of the 113,592 women examined, 4,281, or 3.7 percent, approximately the same percentage as in the previous year, were found to have the disease.

The Division continued its program for the diagnosis, treatment, and epidemiology of PID, which have become vital aspects of gonorrhea control. A survey of 35 Massachusetts hospitals indicated that the gonococcus is the causative agent in approximately 18 percent of the PID cases diag-

nosed. Protocols with standards for the diagnosis of gonococcal PID, which had been established by the Division, continued in over 30 hospitals located in areas of highest incidence. Measures for ensuring the rapid epidemiologic follow-up of contacts, many of whom were asymptomatic men, were maintained. During calendar year 1982, 408 cases (a 14 percent increase over 1981) of gonococcal PID were reported. They represented 14 percent of the 3,543 reported cases of gonorrhea in women.

The incidence of penicillinresistant gonorrhea increased by a dramatic 1300 percent in 1982, when 98 cases were reported as compared to a previous high of seven cases in 1981. The majority of cases, thus far, have been linked to prostitutes and their contacts located in Boston and adjacent communities. Intensive epidemiologic measures have been applied to prevent the spread of such cases throughout the state.

The 18 cooperating venereal disease clinics in the outpatient departments of general hospitals had 41,082 patient visits for examination and treatment during the fiscal year. The cost, which included diagnosis, laboratory work, and treatment, was \$18.76 per patient visit.

Although the number of cases of acquired immune deficiency syndrome (AIDS) has increased greatly in the last two years, the cause of the disease remains unknown. Institution of preventive measures has, therefore, been compromised. The Department has, however, instituted a statewide surveillance system that requested physicians and hospitals to report voluntarily all suspected cases of AIDS. Reports were forwarded to the Centers for Disease Control for further analysis and follow-up. The Division of Communicable and Venereal Diseases has maintained a close relation with the homosexual and Haitian communities, health providers, the Red Cross, and other concerned organizations to deal with this serious public health problem. Sixteen confirmed cases of AIDS were reported in the state through calendar year 1982.

As part of its continuing effort to halt the spread of venereal diseases in the Commonwealth, the Division provided training in venereal disease control to 218 medical students from the Boston University and Tufts University Schools of Medicine.

HOSPITALS

Through the operation of its six public health hospitals, the Department has been able to sup-

plement existing resources on a statewide basis and to assume special responsibilities to ensure comprehensive health care to the community. The role of the public health hospitals in the overall delivery of health care in the Commonwealth remained a matter of discussion during fiscal year 1983. Although many services once provided only by these hospitals have been absorbed by the private sector, the hospitals, in general, continued to provide a broad range of services to meet the needs of their patients. New programs stressed health promotion, as well as the prevention of the occurrence and progression of disease and disability.

The services and programs of the six public health hospitals are summarized below.

 Lakeville Hospital — A 100bed chronic disease rehabilitation facility in the southeastern region of the state, Lakeville Hospital worked to expand admission referral sources for both inpatients and outpatients. The greatest results were in the admission of pediatric inpatients, which rose to 171 in fiscal year 1983, a 25 percent increase over the previous year. Total adult admissions were down 5 percent from the previous year, but adult surgical admissions were 11 percent higher than in the previous year. The increase in total inpatient admissions was over 9 percent higher than in fiscal year 1982, a situation necessitating the reopening of a nursing unit that had been closed in the previous year because of budgetary cutbacks. The unit has been designated for "progressive care" for more independent long-term patients and short-term surgical patients. The special designation allowed for reduced staffing and the most efficient use of the unit.

The addition of a physician to the medical staff, as coordinator of the Outpatient Department, has helped to expand and coordinate all outpatient activities. Total outpatient visits increased by 9 percent in fiscal year 1983. During the year, the Outpatient Department held two screening clinics—one for hypertension and one for oral cancer—as part of the hospital's health promotion/disease prevention programs for the public. Both clinics were well attended.

 Lemuel Shattuck Hospital — Located in the Jamaica Plain section of Boston, the Lemuel Shattuck Hospital serves the acute and long-term needs of patients without access to other facilities. In November 1982, the Department and the hospital initiated a strategic planning project to define the appropriate role for the Lemuel Shattuck Hospital in the 1980's. The study found the hospital and its programs to be necessary, cost-effective, and of high quality, and recommended that the hospital increase its capacity to 325 beds to handle unmet needs of the community.

In fiscal year 1983, the Shattuck continued to provide high-quality health care to both inpatients and outpatients. During the year, the hospital reached its highest census level in 10 years — 95.6 percent. The hospital's special unit served 90 percent of the Department of Correction's medical and surgical needs. Plans for the expansion of the unit, the only one of its kind in the state, were completed during the year. The Bay Cove Mental Health Unit, which had moved to the Shattuck in the previous fiscal year, expanded to a third unit, increasing the overall capacity to 75 beds. The initial move of the unit to the Shattuck and its subsequent expansion have resulted in a greatly improved quality of care to both acutely and chronically ill patients from the South Cove, South Boston, Columbia Point, and North Dorchester sections of Boston, which had been underserved.

The Outpatient Department experienced a 28 percent increase in utilization during the past year. Its 23 specialty clinics provided a full range of services, including dentistry, chronic care, pain and stress, psychiatry, and tuberculosis treatment, for a total of 24,000 visits. Approximately 500 physical examinations were provided to State Police through the Outpatient Department.

The Shattuck's program of providing shelter to the homeless grew from only two guests on January 24, 1983, to 153 in March. The hospital served 9,308 nutritious meals to the homeless in one month alone. The Shattuck carried out its mission to care for the homeless at about a third less than the cost of the institution with the next lowest cost per day.

 Massachusetts Hospital School — Located on 160 acres in Canton, the Massachusetts Hospital School is a unique facility that provides comprehensive medical, educational, and restorative services to physically handicapped but intellectually able children. The Hospital School continued to provide a wide range of clinical services — orthopedic, cardiology, cerebral palsy, Milwaukee brace, myelodysplasia to both inpatients and outpatients from the surrounding communities. Within the resources allocated by the Commonwealth, each young patient received highly individualized services. The Hospital School staff worked to provide a warm, nurturing, and stimulating environment to encourage growth of the handicapped child into a well-adjusted adult.

To this end, the Interdisciplinary Program begun at Baylies Cottage has been extended to all seven residential units. The Student Independent Living Experience, which gives young adults with handicaps the opportunity to experience both the joys and difficulties of living independently,



Gov. Dukakis greets guest at opening of shelter for the homeless at the Shattuck Hospital.

remained unique in the United States. The program was featured at the meeting of the National Association of School Hospital Administrators, hosted by the Massachusetts Hospital School in October 1983.

During fiscal year 1983, the Hospital School provided service to approximately 110 resident children, 15 day students, 700 patients in the Outpatient Department, and 60 preschoolers in three programs. Housing for the handicapped, funded by Chapter 689 and operated by the Canton Housing Authority, was begun on a five-acre plot of land adjacent to the Hospital School that was donated by the Board of Trustees.

The Recreational Complex for the Handicapped, dedicated in the spring, is fully accessible to anyone with a disability. The complex has become the center of recreational activities not only for the Hospital School's patients but for many others currently denied access to recreational programs.

• Rutland Heights Hospital — Located in the rural central Massachusetts community of Rutland, the Rutland Heights Hospital continued to offer a wide range of regional and statewide specialty programs for adults. The main hospital operated a total of 110

beds and provided both inpatient and outpatient services, with special emphasis on the needs of the geriatric patient. Comprehensive programs for rehabilitation, chronic diseases, and long-term care were available. As part of its program of prevention, the hospital maintained an Adult Day Care Program, providing medical, nutritional, social and recreational support to clients who might otherwise require placement in an institution.

The hospital's 30-bed Alcohol Rehabilitation Program continued to provide medical treatment, psychological evaluations, individual counseling, and social services to persons voluntarily seeking treatment.

Since its inception in October 1982, the 14-day residential Alcohol Treatment Program, an alternative to a mandatory minimum seven-day jail sentence, has expanded to 131 beds and has admitted over 1,000 clients. The program's objective is to ameliorate the problem of drinking and driving, and to reduce the number of highway accidents and deaths.

• Tewksbury Hospital — Tewksbury Hospital in the northeastern region of the state, with a bed capacity of 820, is the largest chronic disease, rehabilitation hospital in Massachusetts. It also operates a 225-bed program for homeless men, most of whom are alcoholics. During fiscal year 1983, approximately 350 men were admitted into the program. Fourteen men asked for referrals to halfway houses or other special intensive treatment centers for alcoholism in the community. Ten men were given assistance and succeeded in entering such programs.

The Physical Medicine Rehabilitation Committee continued to expand its services to the hospital. Under a newly developed policy, all new patients were assessed by the committee and assigned to the proper therapy unit. A program in biofeedback was presented by a graduate student from the University of Lowell. The patients who participated in the six-week program showed improvement in stress reduction and pulmonary function.

During the year, Tewksbury Hospital transferred a parcel of land to the Department of Mental Health for the development of an intermediate care facility for the mentally retarded. The action was another example of the long cooperative relation the hospital has maintained with other state agencies.

• Western Massachusetts Hospital — Located on 196 acres of land in Westfield in Hampshire County, the Western Massachusetts Hospital continued to provide inpatient and outpatient services to both adults and children, respite care for both adults and children, and day care services.

During fiscal year 1983, the Coma Unit was expanded from 20 to 34 beds. The Palliative Care Program continued to grow in scope through the addition of a volunteer program and the recruitment of a medical director for the unit. The average daily census in this program grew from 12 to 16 patients. The special Pediatric Summer Respite Care Program, which offers two weeks' respite for families of handicapped children, was again filled to capacity. The Adult Respite Program experienced a 54 percent increase in admissions.

The hospital's outpatient clinics offered a wide range of services to

high-risk groups, underserved populations, and clients of other state agencies. Other services included preemployment physical examinations for Civil Service applicants; preinduction examinations for inmates of county jails and houses of correction, for state and local police and firemen; annual toluene screening and lead poisoning tests for employees of the Department of Public Works; and evaluation and treatment program for school-age children with special needs. Outpatient visits increased by 33 percent over the previous year.

Over the past few years, the hospital has made serious efforts to use outlying buildings on the hospital grounds. During the fiscal year, the hospital reached its goal of filling all available space. Some of the agencies located in the Human Services Building were: Alcoholism Services of Greater Springfield, Inc., which provides a short-term inpatient alcoholism rehabilitation program and a Driving While Intoxicated Program, funded by the Department's Division of Alcoholism; Center for Human Development, Inc.,



Former coma patient leaving Western Massachusetts Hospital after many months of therapy.

which maintains an area office to coordinate a children's emergency services program in the Westfield area; an area office for the Department of Mental Health, and a regional office for the Office for Children.

During fiscal year 1983, the Department's six public health hospitals admitted 3,806 patients, an increase of 7.6 percent over the previous year. The average length of stay varied from 22.6 at the main section of the Lemuel Shattuck to 1,311.8 days at Tewksbury. The outpatient visits — 44,414 — represented a decrease of 1,340 from 1982, a reflection of the closing of the Outpatient Department at the Rutland Heights Hospital (Table 8).

The hospitals continued to expand training of physicians and paramedical personnel as part of the Department's total public health effort. Lemuel Shattuck, Tewksbury, and Western Massachusetts Hospitals graduated 86 practical nurses from their accredited schools of practical nursing. Many of the nurses continued to work at the hospitals.

HEALTH REGULATION AND PLANNING

The Department carries out its mandate — "To maintain, protect and improve the health and wellbeing of the people" — not only through its hospitals, laboratories, and programs of direct services, but also through programs that aim to ensure all sections of the population safe health care. The Department also has responsibility for preventing unnecessary expansions or renovations of health care facilities that add to health care costs in the Commonwealth.

HEALTH CARE QUALITY

The Division of Health Care Quality has the responsibility to ensure high-quality preventive, curative, and rehabilitative health care at reasonable cost. Its program of quality control encompasses a health care system of hospitals, nursing homes, rest homes, chronic renal dialylsis units, ambulance services, clinical laboratories, clinics, blood banks, home health agencies, state schools and community-based intermediate care facilities for the mentally retarded. In fiscal year 1983, the Division licensed or certified over 1,900 facilities or services as part of its overall efforts to establish and enforce minimum standards of care.

Restoration of funding lost during the previous fiscal year helped the Division to begin inspection of ambulance services for compliance with advanced life support regulations. These regulations determine what advanced procedures, such as intubations, intravenous injections, defibrillations. and electrocardiograms, can be carried out by paramedics, cardiac, and intermediate emergency medical technicians. Another new activity has been the licensure of clinical laboratories to ensure that tests are carried out by properly trained staff and that accurate results are reported to physicians to aid diagnosis and treatment.

The restored funds also allowed

Table 8.
Public Health Hospitals
Annual Census Summary July 1, 1982 - June 30, 1983.

HOSPITALS	Admissions	DISCHARGES	DAYS	STAY	CENSUS	Visits
Lakeville	362	360	32.395	104.8	88.8	9,790
Lemuel Shattuck Main	1,570	1,577	33.756	22.6	92.5	23,647
Medical Geriatric	47	52	17.701	974.5	48.5	12
Bay Cove	463	453	22,782	31.4	62.4	292
Mass. Hospital School	139	137	24,865	348.4	106.9*	1,419
Rutland Heights	326	323	36,967	146.2	101.3	
Tewksbury						
Main	245	222	258.881	1.311.8	709.3	
Homeless Men	333	350	62,301	140.6	170.7	
Western Mass.	321	370	29,613	70.1	81.1	9,254
TOTAL	3,806	3,844	519,261	_	_	44,414

^{*}Average daily census at the Massachusetts Hospital School has been adjusted to reflect enrollment days

the Division to begin full inspection of clinics and hospitals and timely inspections of rest homes. Under contract with the Department of Public Welfare, the Division resumed its "Inspection of Care" process to examine the quality of care received by Medicaid patients. The Division also regained responsibility for the administrative functions of the Board of Approval and Certification of Physician Assistant Programs, which certifies all such programs in the state.

Patient abuse continued to be a problem. During the fiscal year, the Division investigated 236 separate complaints of abuse, mistreatment or substandard care of patients at the facilities it licenses and regulates, and submitted reports of 81 justified complaints to the Office of the Attorney General. In addition, the Division responded to eight emergencies when patients' health and safety were in jeopardy. Emergency action included the appointment of nursing home receivers in one case; procurement of protective court orders in conjunction with the Attorney General in five cases: and assistance in the transfer of 349 patients from six grossly deficient long-term care facilities. The Division initiated licensure revocation actions against six unsuitable operators of long-term care facilities, and Medicaid decertification against 10 substandard nursing homes. It also recommended Medicare decertification of three substandard hospitals and two clinical laboratories.

To make more effective use of resources, the complaint investigation process was streamlined. A new reporting system reduced the processing time by approximately 30 percent and assured immediate response to complaints involving jeopardy of patients or major policy concerns. The Division also established comprehensive procedures for the development, handling, and processing of all

enforcement cases.

New regulations, promulgated in December 1982, established criteria for review of the suitability of long-term care licensees, including persons convicted of a felony involving Medicaid fraud. Other accomplishments of the Division included:

- Convening a Birth Center Task Force to assist with the development of policies regulating birth centers. Based upon the task force's recommendations, the Division prepared draft regulations for a series of public hearings early in the next fiscal year.
- Promulgation of regulations that require long-term care facilities to provide patients with readily accessible, locked personal storage space and telephone services that ensure privacy and easy access for the handicapped.
- Convening a Pediatric Advisory Committee of consumers, physicians, and other professionals to aid in developing guidelines for licensure of pediatric services in hospitals, and in designing the services by level of care.
- Approval received for a project to use a new methodology to reduce surveyor's time in inspection of care of Medicaid patients in long-term care facilities.
- Approval received for two special projects to provide additional funds to psychiatric nursing homes for enriched staffing to improve patient care.

DETERMINATION OF NEED

Under the provisions of the Determination of Need (DON) Law, the Department of Public Health is responsible for analyzing the need for, and cost-effective allocation of, health care facilities in the state. Through the DON Program, the Department works to prevent unnecessary building of new facilities or expansion of

existing facilities to avoid wasteful duplication of services and facilities, which contributes to spiraling realth costs and reduces the quality of services.

During fiscal year 1983, an increase in the budget enabled a gradual and partial restaffing of the program, which had been drastically cut in the previous year. Thus, by the end of fiscal year 1983, the backlog of DON applications was reduced. Applications ranged from several large proposals for hospital expansion to numerous smaller projects eligible for "delegated review." The "delegated review" process, which became fully operational in fiscal year 1983, expedites smaller projects with limited effect upon cost or health service organization by allowing the Commissioner to approve applications for such projects without review by the Public Health Council.

The DON Program made considerable progress in implementing the new policies recommended by the Senate Post Audit and Oversight Committee and the Governor's Health Care Cost Containment Coalition in the previous fiscal year:

- After careful analysis, the DON Program examined the feasibility and implications of a health care budgeting system. Such a process would establish statewide health care priorities, rank the applications submitted, and review them according to "affordability." The Department has submitted legislation to provide statutory clarification of this important issue.
- Working closely with the Rate Setting Commission, the DON Program altered its method of review to allow a closer look at total operating costs rather than at only the "bricks-and-mortar" costs associated with DON applications. The new orientation has presented a more accurate picture of the costs and benefits of projects.

Basing itself on new legislation that raised the threshold for applications and reduced the number of annual filing dates from three to one for the most costly proposals, the DON Program formulated policies and procedures to clarify the process.

The DON Program worked closely with the Office of State Health Planning and the Rate Setting Commission on these issues. In so doing, it greatly increased communication and coordination among the agencies.

EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS) passed its tenth anniversary in January 1983 as the state's lead agency charged with planning, developing, and monitoring a system of emergency medical care in the Commonwealth. Working with regional and area groups, providers and consumers, OEMS has, during the past decade, effected dramatic improvements in EMS care to residents of and visitors to the state.

In November 1982, revised regulations (Governing Ambulance Services and Coordinating Emergency Medical Care) were promulgated by the Public Health Council. Among the major features are standards for advanced life support (ALS) ambulance services, and provisions for departmental designation of regional EMS. Progress was made to implement the regulations in cooperation with the Division of Health Care Quality. Important implementation steps taken by OEMS were:

• Designation of four regional EMS councils and the interim designation of two regional EMS councils after intensive review of six applications for designation. Each council was awarded one year's funding from the Preventive Health Block Grant.



- Certification by the Department of 105 emergency medical technicians (EMT)-intermediates and 110 EMT-paramedics, the first group of ALS personnel whose credentials and training allowed immediate certification.
- Establishment of administrative guidelines governing training and recertification standards for the three levels of ALS personnel: EMT-intermediate, EMT-cardiac, and EMT-paramedic.

Other developments in EMS acted upon by OEMS included:

- Completion of training programs for more than 100 EMT-instructor/coordinators and examiners.
- Providing analysis to the DON Program for two DON applications for hospital-based ALS programs, which were approved by the Public Health Council.
- Sponsorship of two symposia for EMS personnel Emergency

Problems in the Elderly, and Emergency Management of Child Abuse — which were attended by over 400 medical professionals.

• Provision of technical assistance in communications and evaluation to the newly established New England Life Flight helicopter ambulance system.

The OEMS programs to upgrade resources and to enhance local and regional networks of EMS functioned throughout the year:

- OEMS reviewed and approved 133 basic EMT courses, 182 basic refresher courses, and 2,034 continuing education courses. The program also administered more than 100 basic EMT examinations statewide, a 20 percent increase over last year, certified 2,504 new basic EMTs and recertified 2,964 EMTs.
- OEMS reviewed and approved nine ALS training courses, four ALS refresher courses, and 44 continuing educa-

tion courses for advanced EMTs.

- Training of emergency room nurses was maintained. During the year, 200 nurses participated in eight courses in the Critical Care Emergency Department Nurse Education Program and received certification.
- OEMS completed two base station courses for physicians to learn the principles of medical control, which allows instruction to EMTs for patient care in the prehospital setting.
- OEMS carried out its education of the public and health professionals through an EMS Week public information campaign, six EMS teach-ins in hospitals in Region VI, and publication of six EMT Alert newsletters mailed to a national list of over 3,000.

HEALTH STATISTICS AND RESEARCH

The Division of Health Statistics and Research carried out its major functions of collecting, analyzing, interpreting, and disseminating statewide data on vital events, cancer incidence, health facilities, and licensed health professionals. As the officially designated Massachusetts State Center for Health Statistics, the Division fulfilled its broader responsibilities to coordinate data among agencies that collect and use health data, to provide statistical standards and technical assistance to users of health and demographic data, and to serve as a clearinghouse for information on resources of public health data.

During fiscal year 1983, the Division recorded the following accomplishments:

• The Registry of Vital Records and Statistics processed and analyzed reports of approximately 250,000 births, deaths, marriages, divorces, and induced abortions, which were summarized in the 139th edition of Annual Report of Vital Statistics. In addition, the registry ascertained the completeness and correctness of approximately 150,000 legal copies of vital records, processed 10,000 amendments and corrections, and issued more than 80,000 copies of vital records. Approximately 50,000 persons received their copies at the registry. More than 15,000 genealogists, medical researchers, lawyers and representatives of governmental agencies had access to the 22,000,000 records stored at the registry.

- A new Standard Certificate of Live Birth, which added "Mother's Occupation" to the record, was developed and put into official use. In addition, specially trained staff began coding information on a selected number of 1982 death certificates according to the system for coding occupation and industry developed by the United States Census Bureau. All deaths due to cancer have been coded.
- Using Cancer Registry and other Division data and staff, the Division confirmed cancer elevations or case clusters in several Massachusetts cities and towns (as detailed in the section on Environmental Health Assessment). Ongoing monitoring con-

tinued for a variety of cancers in Ashland, Billerica, Fairhaven, Holbrook, Scituate and Woburn.

After establishing the statewide cancer incidence reporting system and demonstrating the utility of the data, the Cancer Registry has been recognized as a central element in the evolution of cancer control efforts in the Commonwealth (Table 9).

- The Health Resources Statistics Unit surveyed more than 2,000 hospitals, nursing and rest homes, medical and mental health clinics, residential care facilities, and home health agencies for their capacities, services, staffing, and utilization during 1982. The unit also developed and provided a data tape with information about the approximately 800 nursing and rest homes in the state to the National Center for Health Statistics as part of a national datagathering project on long-term care.
- The Research and Epidemiology Unit developed and published 1985 and 1990 Population Projections by Sex and Age for Massachusetts Cities and Towns. The projections, which are of key importance to the Department's Determination of Need, planning, and epidemiologic activities, were adopted by the Public Health

Table 9.

Expected* Cancer Incidence in Massachusetts, 1982.

ANATOMIC SITE OR TYPE	Number (%)		
Colorectal	4,023	(17.6)	
Breast (Female)	3,346	(14.6)	
Bronchus and lung	2,909	(12.7)	
Prostate	1,678	(7.3)	
Bladder	1,165	(5.1)	
Uterus	913	(4.0)	
Lymphomas	816	(3.6)	
Stomach	722	(3.2)	
Pancreas	709	(3.1)	
Leukemias	690	(3.0)	
Brain	328	(1.4)	
All other sites	5,591	(24.4)	
Totals	22,890	(100.0)	

^{*}Based on rates from the Connecticut Tumor Registry, 1973 to 1977.

Council in January 1983 for official departmental use. The importance of the age structure of a population in influencing health status and the use of medical care services has been well recognized.

- The Research and Epidemiology Unit has been collaborating with the Divisions of Environmental Health Assessment and Family Health Services in following up possible excesses of malignant neoplasms in over 25 Massachusetts cities and towns.
- A separate Public Information/Data Dissemination Unit was established to supervise the Division's automated data storage, access, and distribution. The unit processed over 100 data requests per month from within the Department and from outside agencies and institutions, and provided developmental consultation to researchers for designing studies and interpreting results. The unit created specially designed machine-readable data files for several on-going research projects including the Lowell/Silresim Health Study of the Departments of Public Health and Environmental Quality Engineering. Two studies of the most recent Board of Registration manpower statistics were completed. At the request of the Area Health Education Center, the unit edited and analyzed the 1980 Registered Nurse File; it also edited, and provided tabular data for, the 1980 Physician Data File for a special project at the University of Massachusetts Medical Center.

MANAGEMENT SERVICES

Management Services consolidates the activities of the Division of Data Processing, the Budget Office, the Office of Employee Relations, the Fiscal Office, and the Division of Central Services. These Divisions provide centralized administrative services to the Department.

DATA PROCESSING

The Division of Data Processing provides computer resources to the Department of Public Health through a time-sharing and remote-job entry contract with several bureaus that provide computer services. The Division also provides programming services and advice on data processing to the Divisions and Hospitals of the Department, and reviews all requests for data-processing services, equipment, and systems. Major projects in fiscal year 1983 included:

- Transfer of the Department's largest system, the Long-Term Care Information System, from a private service bureau to one of the Commonwealth's inhouse data centers.
- Technical supervision of the implementation of a Management Information System that links client, program, service, and fiscal information for the Division of Alcoholism.
- Participation in the development and model implementation of the Personnel/Payroll Management System of the Office of Administration and Finance.
- Systems analysis and programming to implement an automated Cancer Registry.
- Implementation of the first phase of an automated client

record system for the Division of Tuberculosis Control.

• Analysis of the requirements of several Divisions for microcomputing, and initiation of the process for the selection and acquisition of microcomputers.

BUDGET OFFICE

The Budget Office supervised the preparation, implementation, and monitoring of the Department's \$118 million state budget. In addition, it continued to oversee the work of the Contracts and Revenue Units.

EMPLOYEE RELATIONS

The Office of Employee Relations directed the collective bargaining program of the Department, held civil service hearings for Department employees, and represented the Commissioner at hearings of the Civil Service Commission. The Office administered the Disability Retirement Program for the cities and towns of the Commonwealth.

FISCAL OFFICE

In addition to providing accounting services for \$152 million in state and federal funds, the Fiscal Office oversaw the operations of the Payroll and Purchasing Units.

CENTRAL SERVICES

The three units of the Division of Central Services Personnel, Manpower/Training, and Production continued to provide departmentwide services.

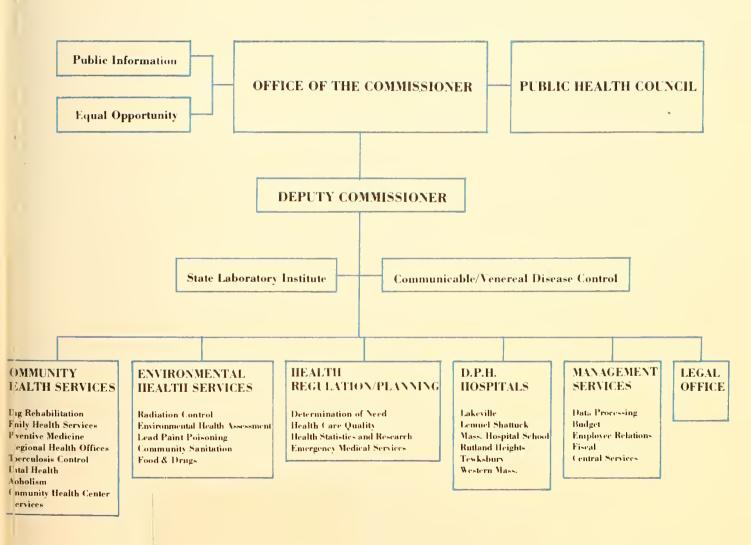
EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1982 - JUNE 30, 1983

	STATE	FEDERAL	TOTAL
COMMISSIONER'S OFFICE	799,316		799,316
MANAGEMENT SERVICES	2,547,629		2,547,629
LEGAL OFFICE	164,226		164,226
Sub Total	3,511,171		3,511,171
COMMUNICABLE AND			
VENEREAL DISEASES	3,004,274	517,210	3,521,484
Sub Total	3,004,274	517,210	3,521,484
COMMUNITY HEALTH SERVICES			
Family Health Services	8,448,137	24,262,701	32,710,838
Preventive Medicine	549,589	828,217	1,377,806
Tuberculosis Control Local Health	2,492,588 594,118	101,995 138,727	2,594,583 732,845
Dental Health	1,931,577	225,638	2,157,215
Community Health Centers	952,347		952,347
Alcoholism	19,571,629	3,755,090	23,326,719
Drug Rehabilitation	4,194,409	3,748,973	7,943,382
Sub Total	38,734,394	33,061,341	71,795,735
ENVIRONMENTAL HEALTH			
Lead Poisoning Prevention	775,180	636,954	1,412,134
Radiation Control	503,377	10,211	513,588
Consumers Products	1,083,192		1,083,192
Sub Total	2,361,749	647,165	3,008,914
HEALTH PLANNING AND REGULATION			
Health Statistics	1,098,754	6,077	1,104,831
Determination of Need Emergency Medical Services	398,540 275,593	416,049	398,540 691,642
Health Care Quality	3,378,115	437,431	3,815,546
Sub Total	5,151,002	859,557	6,010,559
HEALTH SERVICES			
STATE LABORATORIES	5,186,109	93,134	5,279,243
HOSPITALS			
Lakeville Hospital	6,760,457		6,760,457
Lemuel Shattuck Hospital	16,891,866	_	16,891,866
Mass. Hospital School	6,145,822	4.051	6,145,822
Rutland Heights Hospital Tewksbury Hospital	6,193,590 18,082,914	4,851	6,198,441 18,082,914
Western Mass. Hospital	5,149,479	_	5,149,479
Sub Total	64,410,237	97,985	64,508,222
TOTAL	117,172,827	35,183,258	152,356,085

EXECUTIVE OFFICE OF HUMAN SERVICES

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1983





The Commonwealth of Massachusetts -Michael S. Dukakis, Governor

Executive Office of Human Services Manuel Carballo, Secretary

Department of Public Health Bailus Walker, Jr., Ph.D., M.P.H., Commissioner

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Annual Report -

Massachusetts Department of Public Health.

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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1984

Bailus Walker, Jr., Ph.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

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FROM THE OFFICE OF THE COMMISSIONER



Fiscal year 1984 marked my first full year as Commissioner of Public Health. To improve the Department's ability to serve the public in a period of change and challenge in public health, we undertook a realignment of the Department's organizational structure. By the end of the fiscal year, revisions had been implemented and programs developed. These changes were made to meet the following objectives:

1. To develop a stronger infrastructure to enhance a broad societal approach to the prevention of the occurrence and progression of disease.

2. To strengthen avenues now open for improving the health of Massachusetts communities, including environmental health measures, health education, and personal health care.

 To develop productive and efficient working relations with voluntary health groups and all elements of the diverse Massachusetts health community.

4. To improve exchange of information to promote innovation and excellence in the provision of public health services.

To accomplish these objectives within existing resources, we created four major organizational entities:

•Office of Policy Development and Planning—to provide a focal point for policy development and long-range planning and evaluation of services. The office will serve as the policy-planning link to the Executive Office of Human Services and to other agencies in the Commonwealth. It will also participate in the development and monitoring of state and federal health legislation.

Office of Local Health Services and Regional Operations—to strengthen ties with regional and local health programs in a uniform health services system to provide available, accessible, and acceptable health services throughout the Commonwealth. The office will also provide administrative support services for the Department's six public health hospitals. The office will ensure the participation of local and regional health offices and the six hospitals in plans for the development of state public health programs.

•Office of Public Information and Health Education—to plan, organize, and conduct statewide programs to impart information about health policy and health services, and to motivate the public to use the information for the promotion of individual and community health. The enlarged office consolidated health education and communication services that had previously been provided by other Departmental divisions.

•Center for Health Promotion and Environmental Disease Prevention—to improve the Department's ability to respond to health issues and problems that are, to one degree or another, caused, mediated, or aggravated by environmental factors. The Center has coordinated existing efforts in the prevention of heart disease, cancer, and stroke, and consolidated health promotion-prevention services and programs, including environmental epidemiology and toxicology, environmental risk assessment and management, and lifestyle risk-factor reduction.

By the end of the fiscal year, the Center had developed an integrated approach to the prevention of premature deaths from heart disease, cancer, and cerebrovascular disease in Massachusetts. The emphasis of an aggressive statewide effort, to begin early in fiscal year 1985, will be on the prevention of premature deaths from these three causes through a reduction in their underlying risk factors. The Department's expectation is that, within five years, at least 2,000 premature deaths will be prevented annually in Massachusetts as a result of the program.

In addition to the organizational changes described, the Women's Health Program and the Child Passenger Safety Resource Center became part of the Division of Family Health Services to unify Departmental programs that serve women and children.

As the Department continued to carry out its goal "to maintain, protect and improve the health and well-being of the people," it embarked on several new programs. A statewide program was initiated to prevent Fetal Alcohol Syn-

drome (FAS) and other child health problems related to alcohol consumption during pregnancy. The Department estimates that as many as 100 infants are born in Massachusetts each year with FAS, one of the three leading known causes of mental retardation along with Down's syndrome and spina bifida. The program will not only save the Commonwealth thousands of dollars in health care costs for such infants but also prevent the human suffering that accompanies these illnesses.

Noteworthy was the completion and release of the 1983 Massachusetts Nutrition Survey, which found that malnutrition is a significant public health problem among low-income preschool children in the state. Release of the survey results prompted passage by the Legislature of an emergency state supplemental appropriation totaling nearly \$3.4 million. The appropriation was precedent-setting because the bulk of the funds went to increasing participation in the Special Supplemental Food Program for Women, Infants and Children (WIC). This move represented the first time in the nation that state funds were used to supplement the U.S. Department of Agriculture's funded program.

The Department also became involved during the year in the growing national debate over the presence of chemical pesticides in our food supply. The Department adopted strict state standards limiting the amount of ethylene dibromide (EDB) allowed in foods sold in the Commonwealth, and embarked upon a broad testing and regulatory program.

The development of a preliminary state policy on organ transplantation was another major achievement of fiscal year 1984. A state Task Force on Organ Transplantation, established by the Executive Office of Human Services and staffed by the Department, suggested a number of standards and processes for evaluating the use of organ transplants.

During the course of the year, with guidance from the Task Force, the Department approved the establishment of demonstration programs in liver and heart transplantation.

The Department's Cancer Registry released its first Annual Report of Cancer Incidence in Massachusetts, which provides information on nearly 24,000 cases of cancer diagnosed in Massachusetts residents in 1982 and reported to the Registry for the first time. Release of the report resulted in the appropriation of additional state funds for cancer control.

Another "first" for the Department was the development of a television educational service announcement on the medical and public health consequences of a nuclear war, and the overriding need to prevent its occurrence. The announcement was carried by a number of television stations around the state, and was also being used as part of community discussions on the topic.

Recognizing that the numbers of homeless people were growing, the Department expanded its services and facilities for the homeless population. The homeless shelter located at the Shattuck Hospital was enlarged to house 100 people nightly, while renovations were begun at the shelter located at Tewksbury Hospital. Besides providing nightly lodging and meals, the shelters increased their medical and social services programs. Working closely with other state social service agencies, the Department is pursuing a vigorous program to help the homeless make the transition back to a more stable work and home environment.

This Annual Report is a brief accounting of the activities of the Department of Public Health during a year of difficult decisions, but of continuing progress in providing health care services of high quality to the people of the Commonwealth. To the many organizations, agencies, and individuals in Massachusetts who continue to support the Department of Public Health's health promotion efforts, we express our sincere thanks.

Bailus Walker, Jr., Ph.D., M.P.H.

Baulus Walker, Jr., Ph.D., M.P.H.

Commissioner

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of the people"

CENTER FOR HEALTH PROMOTION AND ENVIRONMENTAL DISEASE PREVENTION

The Center for Health Promotion and Environmental Disease Prevention implemented a number of organizational changes before the end of fiscal year 1984, preparatory to embarking upon a broadened program of activities in the next fiscal year. The Center includes three Divisions, each responsible for specific activities.

HEALTH PROMOTION SCIENCES

The Division of Health Promotion Sciences provided such public health interventions as hypertension screening, smoking prevention, fitness programs, and the provision of nutritional expertise and information.

Hypertension Control Services

The Hypertension Control Program strengthened community-based services and professional education during fiscal year 1984. Eleven community health agencies were funded to provide comprehensive hypertension control services to high-risk populations within their service areas. These services were offered in both worksites and community settings. Hypertension screening, referral, and health education about the multiple risk factors for cardiovascular disease were provided to all persons served by the agencies.

Data collected on approximately 10,000 residents screened during the year indicated that the agencies were successful in reaching minorities and low-income populations, and that hypertension was more prevalent in the targeted groups. In addition, data on a sample of hypertensive clients followed for six months showed significant reductions in blood pressure.

The Hypertension Training and Education Center, funded by the Center, offered a comprehensive program of professional education to nurses, nutritionists, health educators, administrators, and health aides. Health care providers from 25 agencies throughout the state attended training sessions and received information on clinical management of hypertension, nonpharmacological approaches to the control of hypertension, strategies for community outreach, worksite marketing, and evaluation methodology.

Smoking Prevention

In fiscal year 1984, three state colleges, with resources provided by the Department of Public Health, offered graduate level smoking and alcohol abuse prevention courses to train teachers and allied school personnel in the implementation of substance abuse programs. More than 100 teachers were trained throughout the state. The Department of Education's Commonwealth Inservice Institute, which responds to the specific needs of teachers, received funds for inservice training on smoking and alcohol abuse prevention. In fiscal year 1984, nine school systems trained 163 teachers to implement such programs.

As part of the program's activities to prevent smoking and to help smokers break the habit, staff prepared the "Smoking Brake," a 14-minute smoking cessation videotape to be used on closed circuit television. "Break the Habit," a five-part smoking cessation program, was developed for use on radio, and will be implemented early in the next fiscal year.

The brochure Your Smoke Is Their Smoke alerted parents who smoke to the dangers second-hand smoke poses to young children, and suggested measures for minimizing the effects of smoke. Approximately 40,000 copies were distributed to hospitals, health maintenance organizations, and neighborhood health centers.

The Nonsmokers' Guide to Massachusetts, prepared in conjunction with the American Lung Association of Massachusetts, included sections on second-hand smoke, laws relating to smoking, a list of insurance companies that offer discounts to nonsmokers, health care facilities that have nonsmoking policies, and restaurants with nonsmoking areas. During the year, the Department worked with the Massachusetts Hospital Association and others to develop educational material to conduct workshops on smoking cessation strategies.

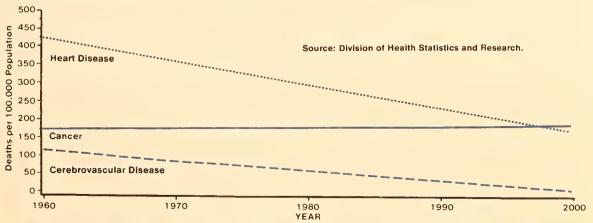


Figure 1. Massachusetts Age-Adjusted Mortality Rates Per 100,000 Population for all Cancers, Heart Disease, and Cerebrovascular Disease, Actual and Projected, U.S. 1970 Standard Million, 1960 - 2000.

Fitness Programs

The LifeStyle Program, a worksite health promotion service, was offered to approximately 600 state employees in 20 agencies. The program provided public employees with the information and techniques necessary to identify personal risk factors, and the support and skills required to make positive changes in health behavior. Activities of LifeStyle included educational presentations, counseling, and exercise classes.

Two Resource Centers for Firefighter Fitness, which were again funded by the Center in fiscal year 1984, demonstrated that firefighters committed to a regular fitness program can increase the efficiency of their cardiovascular systems and reduce the percent of body fat. The two centers served firefighters from 15 Massachusetts communities and offered cities and towns testing, workshops, and health risk appraisals.

Massachusetts Nutrition Resource Center

The Massachusetts Nutrition Resource Center (MNRC) provided consumers and health professionals with authoritative and reliable information about nutrition and related health topics through a statewide, toll-free nutrition hotline and mail request service. Materials on nutrition topics, including heart health, fiber in the diet, and how to reduce salt and fat in the diet, were made available through these services. Residents of Massachusetts were also able to obtain referrals to nutrition services and resources throughout the state, such as WIC offices, cooperative extension services. food stamp offices, registered dietitians, and child feeding programs. During fiscal year 1984, MNRC answered almost 8,000 calls and responded to approximately 2,000 mail requests for information on weight control, sodium in the diet, fiber, calcium needs in adults, and nutrition for senior citizens.

In addition, four Massachusetts communities were targeted for extensive outreach activities, and two special nutrition education projects were begun. A nutrition newsletter supplement was published for family day care providers and nutrition education materials developed for staff of, and participants in, food pantries.

RESEARCH AND EVALUATION

The Research and Evaluation Division evaluates the effectiveness of the Center's efforts to reduce the incidence of chronic disease and disability, and of its health promotion and disease prevention activities. In fiscal year 1984, four major evaluations were accomplished.

•In collaboration with the Women's Health Program, the research staff conducted a study of rape crisis centers funded by the Department. Demographic and other data on 911 clients were collected by 11 of the 16 centers. Analysis of the data indicated that 96 percent of the victims using the centers were female; 18 percent were under the age of 20; and most important, 60 percent had never reported the crime to the police,



State employees in jazz aerobics class offered by the LifeStyle Program.

hospitals, or any other agency. The centers were thus providing services to a large number of rape victims who had not been reached by more traditional agencies.

•The Massachusetts Nutrition Resource Center surveyed a sample of persons using their toll-free hotline to evaluate callers' satisfaction with the hotline and related MNRC services. Approximately 80 percent of persons sampled reported that the information they received was adequate to meet their needs.

•A study of over 300 clients of the hypertension control program found that follow-up and monitoring of hypertensive clients, when done in compliance with program protocols, yielded significant drops in systolic and diastolic blood pressures.

•Division staff analyzed data from a survey of all Department of Public Health employees that solicited their opinions on the hazards of smoking in the workplace, a first step in assessing employee support for a Department-wide smoking restriction policy.

ENVIRONMENTAL EPIDEMIOLOGY AND TOXICOLOGY

The Division of Environmental Epidemiology and Toxicology was transferred to the Center for Health Promotion and Environmental Disease Prevention. It continued to carry out major disease prevention services.

Environmental Epidemiology

Responding to reports of unusual occurrences of disease thought to be related to environmental factors, the En-

vironmental Epidemiology Unit carried out the following investigations:

• Peabody—The Unit undertook a major investigation to determine whether elevated mortality rates from pancreatic cancer in Peabody were related to environmental contamination, and to identify risk factors associated with the disease. On the basis of interviews with informants for residents who had died of pancreatic cancer between 1974 and 1982, and of environmental data collected for Peabody, the Unit found no association between environmental contaminants and pancreatic cancer.

•Lowell—The results of a study jointly sponsored by the Department and the Department of Environmental Quality Engineering (DEQE) on the health effects among residents near the Silresim site, a former waste recycling plant, were made public in fiscal year 1984. Carried out by the Boston University School of Public Health, the study found no unusual patterns of mortality, increased cancer risk, birth defects or other reproductive hazards. Although less severe health effects, such as respiratory symptoms, persistent colds, and fatigue, seemed to be more common in the vicinity of the site, investigators could not conclude that the site was the cause of the adverse health effects.

•Salem—Four cases of Hodgkin's disease diagnosed from 1979 to 1982 among students at Salem High School had been investigated in fiscal year 1983. A report based on interviews with the parents, released in fiscal year 1984, showed no association between environmental exposure and the elevated incidence of the disease in Salem.

• Town Studies—The Unit responded to requests from residents and public officials of a number of towns

throughout the state to investigate disease rates in their towns. Investigations were carried out in Whately, Littleton, Wilmington, Templeton, Marshfield, Hanson, West Fitchburg, Randolph, and Lexington. All but two of the studies, which examined cancer mortality rates in each town, found no elevation of rates. In the Town of Marshfield, elevations in mortality from prostate cancer from 1979 to 1982 and in the incidence of leukemia in males in 1982 were noted. A review of the statistics for breast cancer mortality in Lexington showed significantly more deaths than had been expected for the period from 1969 to 1973, but not for the periods 1974 to 1978 and 1979 to 1982. In addition, the number of newly diagnosed breast cancer cases in 1982 was approximately the same as expected.

Environmental Toxicology

The Environmental Toxicology Unit carried out health risk assessments of exposure to toxic substances in the air, water, food, and consumer products. The Unit also provided assistance to both the public and private sectors on the health effects of hazardous substances and produced educational materials to help respond to the growing number of inquiries from the public. Staff also served as advisors to state agencies and committees established to assess the effects of environmental pollutants on the health of the people. The Environmental Toxicology Unit conducted the following studies during the fiscal year.

•PCB Study—A detailed review of the health effects of polychlorinated biphenyls (PCBs) in humans and other species was completed. Staff carried out an exposure assessment for PCBs among a sample of Norwood residents who lived in the vicinity of a former dumpsite and who had the greatest poten-



Norwood residents fill out questionnaires for survey on PCB exposure.

tial for exposure. The result of the screening indicated that all residents, with the exception of one, were well within "background" levels found in the general population of the country. The one exception could have been exposed in the workplace.

Toward the end of the fiscal year, the Unit learned that the Division's proposal for a two-phase study of PCBs in the New Bedford area had finally been approved by the U.S. Centers for Disease Control (CDC). Plans were begun to hire a director and personnel to staff the project. Phase I of the study, scheduled to begin in September 1984, calls for a random study of New Bedford area residents to determine PCB exposures.

*Other Toxic Substances Studies—To allay public concerns over the discovery of such chemicals as aldicarb, EDB, malathion, and naphthalene in drinking water or in the ambient air, the Unit conducted literature searches, prepared risk assessments of the chemicals, and produced educational materials on the health effects of the pesticides. Similar studies were done on chlorpyrifos and pentachlorophenol, chemicals used for termite control, and in the case of the latter, also as a wood preservative.

*Right-to-Know Law—The Unit developed the Massachusetts Substance List required under the Right-to-Know Law passed in fiscal year 1984. The Unit was charged with determining substances that are considered carcinogens, mutagens, teratogens or neurotoxins. Under provisions of the law, workers have the right to know what substances, including those listed under brand names, they are working with and what the possible harmful effects of exposure might be. The law aims to help prevent or reduce the incidence of chemically induced illnesses.



RIGHT to KNOW

WORKPLACE NOTICE

THE RIGHT TO KNOW LAW, Chapter 111F of the Massachusetts General Laws, provides new rights to employees and community residents regarding the communication of information on toxic and hazardous substances.

Those rights include:

WORKPLACE NOTICE A notice must be posted in a central location in the workplace informing employees of their rights under the law. The notice must be in the English Language. It must also be available to non-English speaking persons in their language.

TRAINING Employers must provide an annual training program to employees who work with toxic or hazardous substances. New employees must receive training within thirty days from date of hire. The training program must be conducted by a competent person and may be in the form of verbal and/or written instruction. At a minimum, training must include an explanation of employee rights, the MSDS as a document, and those MSDS's covering toxic or hazardous substances used, handled or stored in the workplace; applicable protective equipment, clothing and labeling of substances that are carcinogenic, mutagenic, teratogenetic or neurotoxic. The employer must keep a record of this training or instruction which must be given with pay during the employee's normal work or shift hours.

MATERIAL SAFETY DATA SHEET (MSDS) The Material Safety Data Sheet is the document that provides information on each toxic or hazardous substance used or stored in the workplace. An employee or his or her designated representative has the right to obtain and examine the MSDS for any toxic or hazardous substance to which the employee "is", "may be" or "has been" exposed, if the employee's request is made to the employer in writing. After four working days from the date the request is made an employee can refuse to work with the substance when two conditions exist.

1. The employer fails to furnish the employee with an MSDS and 2. the employer fails to furnish the employee with proof that the employer has exercised diligent efforts to obtain an MSDS, either from the manufacturer or through the Commissioner of Labor and Industries.

Public employees classified as performing an essential service may not refuse to work with the substance.

LABELING All containers in the workplace of more than five pounds or more than one gallon, containing toxic or hazardous substances, must be labeled with the chemical name of the substance. Containers of mixtures must be labeled with the chemical name of each toxic or hazardous constituent when the constituents comprise one percent or more of the mixture. Containers of more than 30 pounds or more than 5 gallons must also be labeled with the appropriate National Fire Prevention Association (NFPA) Symbol. Labels must be clear, prominent, in English and weather resistant.

NON-DISCRIMINATION

An employee who believes he or she has been discharged, disciplined or discriminated against by an employer for exercising rights granted under the Law, has one hundred-eighty days to file a complaint with the Commissioner of the Department of Labor and Industries. A copy of the verified complaint must be sent to the employer at the same time by certified mail.

NOTE:

The employee's rights listed above are further defined under Chapter 111F of the Massachusetts General Laws and the Code of Massachusetts Regulations 441 CMR 21.00: For additional information call the nearest office of the Department of Labor and Industries: Boston (617) 727-5816, Fall River (617) 675-7962, North Andover (617) 682-6870, Worcester (617) 752-6504, Springfield (413) 734-1421, Pittsfield (413) 445-4214.

George W. Ripley

Groupe W. Bupley

Commissioner
Department of Labor and Industries

The Bureau of Community Health Services coordinates the activities of the divisions and units that provide a major part of the Department's direct services to the people of the Commonwealth: the Divisions of Family Health Services, Tuberculosis Control, Dental Health, Alcoholism, and Drug Rehabilitation, and the Office of Community Health Center Services. In fiscal year 1984, the Department re-funded 37 community health centers, which offer five categories of care: dental services, obstetrical and gynecological services, pediatric and adolescent care, social services, and primary care.

FAMILY HEALTH SERVICES

The mission of the Division of Family Health Services is to promote the health of women, children, and families. especially those with low incomes or special needs, by ensuring access to health care services of high quality, and by developing and implementing strategies to prevent death, disease, and disability. Through state funds, federal Maternal and Child Health Block Grant funds, funds for the Special Supplemental Food Program for Women, Infants and Children (WIC), a portion of the Preventive Health Services Block Grant for rape crisis services, as well as other special state and federal grants, the Division provides services both directly and through contract. The Division's responsibilities are carried out by two offices - Maternal and Child Health (MCH) Services and Services to Handicapped Children (SHC). A Policy Office and Statistics and Evaluation Unit provide central support for research, needs assessment, and policy-related activities.

Maternal and Child Health

Three major programmatic units of the Division's Maternal and Child Health Services provide a range of preventive and primary health care services to women, children, adolescents, and their families. The MCH Section expanded services in fiscal year 1984 as a result of a federal emergency supplemental appropriation (the Jobs Bill), which had been allocated in the previous fiscal year. The Women's Health Program and the Child Passenger Safety Resource Center were added to Maternal and Child Health, complementing related activities in MCH for women and children.

•The Perinatal, Preschool, and School Health Unit provided services designed to prevent death, disease, and disability. With funding support from the Jobs Bill appropriation, the Unit successfully strenghtened the system of care for high-risk infants. The High-Risk Infant Identification System became fully operational. An estimated 10,000 infants will be identified yearly through the system, which will be used to ensure linkage of the infants to appropriate follow-up services, and to produce data for needs assessment and planning purposes. Additionally, all Neonatal Intensive Care Units (NICUs) in the state received funding from the Division to ensure discharge planning and follow-up for NICU babies. Over

1,500 infants and their families received community-based support services, primarily through home visits.

The activities of the Child Passenger Safety Resource Center (CPSRC) will now be more closely integrated with the Division's Statewide Childhood Injury Prevention Program (SCIPP). In fiscal year 1984, SCIPP established an Injuty Prevention Resource Center. Both programs provide information, and educational and technical assistance to community agencies and organizations. SCIPP's services reached 1,300 professionals representing health care, children's services, and educational organizations. CPSRC continued to monitor implementation of the 1981 Child Passenger Safety Law, and to encourage additional legislative action to prevent injuries and fatalities related to motor vehicle accidents. Between 1979 and 1983, the use of car restraints for children aged one to four years increased from 19 to 63 percent.

In fiscal year 1984, the Perinatal, Preschool, and School Health Unit began planning a statewide Preschool Health Initiative. A needs assessment of licensed day care centers in Boston and Springfield was conducted to identify current services, resources, and unmet needs. A statewide conference, "Focus on Health," drew over 300 teachers, parents, administrators, and social service and health care workers interested in preschool health issues and services. During the fiscal year, one preschool health demonstration project funded by the Division provided services to approximately 1,200 children and 2,000 parents and day care staff members in 12 towns in the Holyoke-Chicopee area.

The Unit continued to support the following services: education and support for the approximately 100 families who, each year, lose an infant to Sudden Death Syndrome; purchase of approximately 400 hearing aids and repair of over 800 aids for financially eligible children; hearing and vision screening of over 900,000 school-age children, and scoliosis screening of over 250,000 school-age children; information to approximately 1,000 callers through the Environmental Hot Line on the effects of hazardous substances on the health of pregnant women and their unborn children; through the Massachusetts Poison Information Center, information and follow-up of over 57,000 poison control hotline calls; and specialized diagnostic evaluations for about 100 daughters of women exposed to diethylstilbestrol (DES).

•The Primary Care Unit, through its Maternal and Infant Care (MIC) and Children and Youth (C&Y) projects, ensured the provision of comprehensive prenatal and pediatric multidisciplinary care to approximately 3,800 high-risk, low-income mothers and 45,000 children. Jobs Bill funding allowed the Division to establish four MIC projects in areas of high need in the state, to support a team providing obstetric and gynecologic services to Boston community health centers, and to establish a pediatric health care service in Athol, a town with the highest unemployment rate in Massachusetts.

Jobs Bill funding was also used to increase the Division's support for adolescent health services. State and federal funds supported nine Pregnant and Parenting Adolescent Programs

and six Comprehensive Adolescent Health Programs. In addition to medical care, the latter services include counseling and education that emphasize nutrition, substance abuse prevention, contraception, sexuality, pregnancy, parenting skills, and promotion of good health habits. Approximately 14,000 adolescents were served through these programs.

• The Women, Infants and Children (WIC) Unit received supplemental state funding in fiscal year 1984 to increase the number of women, infants, and children under age five who receive supplemental nutritious foods, nutrition counseling, and health care referrals. Eight new local programs were opened to bring to 35 the total statewide. As a result of a major outreach campaign, 60,000 women, infants, and children were being served at the close of the fiscal year. Outreach materials developed by the Unit were being used on a national basis. Additional state funding also allowed WIC to design specialized services for Southeast Asians that will be implemented in the next fiscal year.

• The Women's Health Program continued to provide services designed to decrease morbidity and mortality among women. The original eight Rape Prevention and Victim Services Programs, which had provided counseling and education services to more than 1,100 women, children, and men in the two previous years, grew to 16. In June 1984, the Women's Health Program, in conjunction with the Governor's Office, coordinated and participated in the Annual Victims of Crime Conference: Violence Against Women. The Program also designed a high school curriculum to promote discussion of the relation between stress and violence, as well as of attitudes about the roles of men and women in society. Schools and agencies serving youth are currently pilot-testing the curriculum. During the fiscal year, the Women's Health Program began a new initiative to increase awareness of health and safety issues in the workplace. The Program continued to provide information and education to the public on the health effects of DES, and counseling and educational programs for women incarcerated in two Massachusetts Correctional Institutions through the Women's Health and Learning Center, which served more than 300 women.

Services to Handicapped Children

Four units within the Division's Services to Handicapped Children worked to maximize the healthy growth and development of disabled children, and sought to keep them at home or in the community whenever possible.

The Early Childhood Development Services Unit was created to provide additional administrative support for the Division's increased responsibility for services to young children. Mandated by action of the Legislature in fiscal year 1983 to assume responsibility for the statewide network of 44 Early Intervention (EI) programs, and to improve the quality of the programs, the Division developed standards for the program for the first time and established a class rate for EI services. At the close of the fiscal year, the EI network was serving 2,500 children as compared to 2,100 children when the Division assumed responsibility in January 1983.



The Community Services Unit provided access to a range of community support and residential services for disabled children from birth through 21 years of age to help families keep their children as close to home as possible. The multidisciplinary, interagency Medical Review Team reviewed and approved requests for placement in pediatric nursing homes, and assisted families in obtaining alternative support services when such placement was deemed inappropriate. Home health care services were provided for approximately 185 children; summer camperships were supported for 280 children, and 15 children received residential respite care.

The Clinical Services Unit, through specialized clinics directly operated by the Division, or from which services were purchased, provided comprehensive multidisciplinary diagnostic and habilitative services to over 6,000 handicapped children during fiscal year 1984. Families of approximately 300 of these children received testing for genetic diseases and counseling services. The Unit also established two new programs: the Adaptive Housing Program to assist families in making minor modifications in their homes to facilitate caring for their handicapped child at home and to promote independent functioning of the child; and the Pilot Program for Children with Special Medical Needs to serve children with chronic, disabling physical illnesses for whom no other SHC assistance was available. Between 50 to 75 children were served through the two programs.

The Case Management Services Unit provided technical assistance, information, and case management services to approximately 1,500 handicapped children receiving Supplemental Security Income (SSI) and/or enrolled in other SHC programs. Staff of the Unit, working out of the four regional health offices and Boston, provided training to staff of other state human services agencies and other organizations on entitlements and services available to handicapped children, especially those with low income.

Research, Needs Assessment, and Policy Development

In fiscal year 1984, the Division continued to assess maternal and child health needs and problems, and to work with other divisions in developing policies and programs that further promote the health of women, children, and families.

The Division completed and released the 1983 Massachusetts Nutrition Survey. One of the major findings was that 9.8 percent of the 1,429 children sampled, aged six months to six years, were stunted or had height-for-age levels

below the 5th percentile of national norms, twice what would be expected. This finding means that an estimated 10,000 to 17,500 poor, young children across the state may be suffering from inadequate food intake over a prolonged period of time (Fig. 2). The poorest children, Southeast Asian children, and children enrolled in Medicaid were identified as being at high risk for malnutrition.

The supplemental funds appropriated by the Legislature after release of the findings of the survey allowed the Division to establish Failure-to-Thrive Programs in four major medical centers and satellite sites across the state. These comprehensive programs evaluate, diagnose, and treat approximately 600 children exhibiting this severe form of malnutrition, and assure linkage to primary care providers for the children and their families.

The Division received federal funding for another major needs assessment initiative. The Tri-Agency Project for the Development of Policy and Program Strategies for Handicapped Children and Their Families is a collaborative three-year program with the Children's Hospital's Developmental Evaluation Center and the Harvard School of Public Health's Department of Maternal and Child Health and Aging. The Division continued to update and refine needs assessments conducted over the past few years for WIC, Primary Care, and Childhood Lead Poisoning Prevention, and to use them for distribution of supplemental funds in fiscal year 1984.

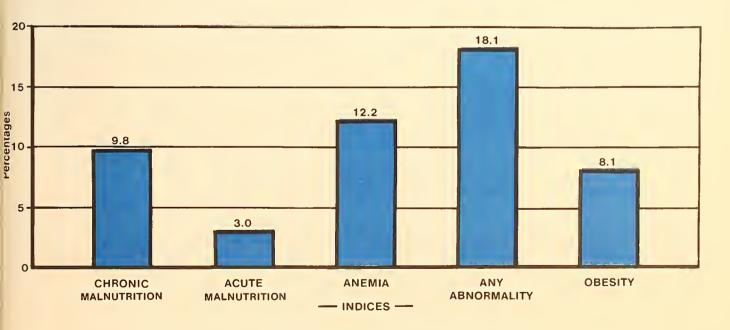


Figure 2. 1983 Massachusetts Nutrition Survey, Indices of Poor Nutrition.

TUBERCULOSIS CONTROL

The Division of Tuberculosis Control has primary responsibility for the surveillance of tuberculosis in the Commonwealth, as well as for the development of programs to treat and control the disease.

After an increase of almost 12 percent reported for the two previous years, the tuberculosis rate in Massachusetts declined sharply in calendar year 1983. The number of newly diagnosed cases reported by physicians in 1983 totaled 389, a decrease of 114 from 1982. The 1983 case rate also showed a decrease from 8.75 per 100,000 population to 6.78. The reduction in the case rate was influenced by two factors: the Refugee Health Services Program, conducted under a federal grant awarded to the Division, became fully operational in providing necessary outreach interpreter and prevention services to assist tuberculosis clinics and local boards of health; and the federal government made the decision to treat Southeast Asian refugees with diagnosed tuberculosis in the refugee camps in the Philippines before releasing them for immigration to the United States.

In addition to the Refugee Health Services Grant, the Division was awarded a Federal Cooperative Agreement Grant, which provided 10 part-time outreach/case register surveyors and a project coordinator to assist 18 cities with tuberculosis case rates above the Massachusetts state average.

A network of 10 inpatient and 32 ambulatory programs in community hospitals makes tuberculosis diagnostic treatment services available and accessible to residents of every city and town in Massachusetts. The efficacy of chemotherapy in the treatment of tuberculosis has resulted in the growth of ambulatory care programs and in reduced lengths of stay of patients admitted for acute care in contract hospitals. In fiscal year 1984, the average length of stay was less than half that in the same hospitals in 1976. The State Tuberculosis Laboratory was transferred from Mattapan Hospital to the State Laboratory Institute in November.

During the fiscal year, the Division strengthened continuing programs to control and prevent tuberculosis in the Commonwealth:

*Direct diagnostic and tuberculosis treatment services for tuberculosis patients and their contacts, including free tuberculosis drugs.

*Isoniazid (INH) preventive therapy programs through the inpatient and ambulatory programs in community hospitals under contract to the Department.

*Diagnostic and treatment-monitoring laboratory services without cost to patients, on a statewide basis, through the central Tuberculosis Laboratory.

 An automated Central Tuberculosis Case Register to track patients with diagnosed and suspected tuberculosis, their contacts, and other infected persons, for purposes of surveillance and to assist local boards of health, tuberculosis clinics, and physicians in the management and follow-up of patients.

*Statewide surveillance of tuberculosis through five regional, nurse-directed Tuberculosis Surveillance Areas that offer public health nursing consultation, health education, and bilingual and other outreach services for the follow-up of patients.

•Participation in the National Consensus Conference on Tuberculosis to establish workable policies, procedures, and guidelines for the control of tuberculosis in the United States.

DENTAL HEALTH

The Division of Dental Health, responsible for the prevention and control of oral disease in Massachusetts, continued its work in the following areas:

Prevention of Oral Disease—The Division continued to make great strides in promoting fluoridation during the fiscal year. Funds from the Preventive Health Services Block Grant were used to assist the fluoridation activities of cities and towns. The Division purchased equipment or fluoride compound for 22 communities with a combined population of approximately 650,000 that had initiated fluoridation during the past two years. Assistance was given to seven local boards of health representing over 300,000 people in communities that were considering fluoridation. With the start-up of fluoridation in Lynn, Rockport, and Manchester (combined population of 95,000), Health Systems Agency (HSA) VI became the first HSA in the state to become fully fluoridated. To ensure that fluoridating communities maintained an optimum level of fluoride, the Division of Dental Health held a training session for water operators and continued its proficiency testing program. Of the 102 communities that were monitored, 92 fell within the optimal range and an overall mean of 0.97 parts per million (ppm) was maintained. By the end of the fiscal year, over 3.1 million residents were receiving the benefits of fluoridation. An estimated savings of \$45 million in dental care costs was realized because of fluoridation's preventive effect.

Enrollment in the school-based Fluoride Mouth-Rinse Program, in its fifth year of operation, increased by 30 percent to bring the total number of children to 78,000 and the number of communities to 159, an increase of 45 percent over the previous fiscal year.

The Division, with support from the federal Office of Maternal and Child Health, began a new prevention program in fiscal 1984 to promote the use of dental sealants for prevention of tooth decay among children. During the year, 13 neighborhood health centers in Boston were given funds to provide sealants to 1,500 children at the centers and at two neighborhood schools. The Division trained over 300 dentists and hygienists to apply sealants. Massachusetts Dental Service

Corporation, Blue Cross/Blue Shield's dental program, agreed to the Division's request that the costs of the sealant process be included as a covered benefit.

*Dental Care—The Division was instrumental in ensuring that the dental needs of publicly supported groups were met. The Division contracted with Tufts University Dental School to operate seven dental clinics on the grounds of the state schools and at the Lemuel Shattuck Hospital for a specialty inpatient service. It also contracted with the National Foundation for Dentistry for the Handicapped (NFDH) to provide preventive care, case finding, and referral services for developmentally disabled persons living in community settings, and established a treatment fund to purchase care from community dentists for clients not eligible for Medicaid, or for specialized services not covered by Medicaid.

During the year, 5,797 clients were treated at the state school clinics, which provided over 24,000 patient visits, an increase of 500 visits over the previous year. In the community, 7,000 clients received services through the NFDH contract, and over 350 were directly served through the Treatment Fund. Having identified Cape Cod as an area where the developmentally disabled were not being adequately served, the Division worked with the Barnstable Health Department to establish a dental program in the area. Since mid-year, over 400 clients have been served through the program.

The Division was given responsibility for the dental care of clients of the Department of Youth Services (DYS). A program to provide services at the Shattuck Hospital and at DYS facilities was developed. A program to improve dental care for institutionalized and homebound elders was also begun with support from the Area Health Education Centers of the Merrimack Valley and Southeastern Massachusetts. Eightythree dental providers were trained and two sets of mobile equipment purchased to be used for treatment visits at nursing homes in the two areas of the state.

*Research and Evaluation—At the request of the Department of Correction, the Division developed a needs assessment of prison inmates to determine their oral status, treatment needs, and attitudes toward dental care. A plan of treatment will be completed for implementation in the next fiscal year.

With support from the statewide Area Health Education Center, the Division provided continuing education training sessions for dental hygienists. In addition, the Division continued to provide training in public health dentistry to residents and students of the Harvard and Tufts Schools of Dental Medicine. Research was begun into the harmful effects of smokeless tobacco, the feasibility of licensing forprofit dental centers, and oral cancer.

DIVISION OF ALCOHOLISM

The Division of Alcoholism seeks to address the problems of alcohol abuse and alcoholism in Massachusetts through a

combination of primary, secondary, and tertiary prevention efforts. An estimated 300,000 persons in the state suffer from alcoholism. When members of families are included, the number of people affected by alcoholism increases to nearly one million who require assistance in their daily living.

*Primary Prevention—The cornerstone of the Division's prevention efforts is the Regional Primary Prevention Center system. Eight regional centers continued to provide a broad network of prevention resources and quality educational services. During Christmas and New Year's, the centers collaborated in a media campaign that emphasized 'good hosting tips' and 'safe ride' programs. The Centers also collaborated on a Youth and Alcohol Conference, which attracted many community providers. The third annual Prom Campaign was expanded during the year. On a statewide basis, 97,092 students, 1,965 teachers, 318 school administrators, and 2,536 parents were directly involved in the planning and implementation of the program, in which 227 school systems participated.

The Coalition to Reduce Drunken Driving, of which the Division is a participant, was instrumental in sponsoring legislation requiring commercial driving schools to include a minimum of six hours of alcohol education in their curriculum and to have at least one instructor trained in alcohol education.

Two new developments of importance to youths and minorities occurred in fiscal year 1984. In October 1983, the Division and the Governor's Advisory Council cosponsored an all-day conference on teenage alcohol abuse, an initial step in organizing a network of professionals with a shared commitment to solving the problem of adolescent alcohol abuse. Secondly, a Black Providers Task Force was formed to examine the issues of Blacks, Hispanics, and other minorities relative to alcoholism services.

*Secondary Prevention (Early Intervention)—Through its secondary prevention programs, the Division aims to reach problem drinkers or alcohol abusers at the earliest possible intervention point. Specially targeted populations such as women, youth, Blacks, Hispanics, and the elderly received attention through selected projects designed to meet their treatment needs.

The Division also supervised 28 driver alcohol education programs for first offenders arrested under the drunk-driving law. The Division assisted with the 14-day treatment program for second offenders at the Department's Rutland Heights Hospital. Because the demand for services now exceeds capacity, the Division has been working on the development of two additional sites, one in western Massachusetts and another in eastern Massachusetts, which will add 100 beds to the system.

The Division expanded its support of the Massachusetts Employee Assistance Program to cover additional state employees. The Division also provided technical assistance to early intervention employee assistance programs in both the public and private sectors.

In fiscal year 1984, the Department received an additional \$200,000 from the Legislature to develop a plan to prevent Fetal Alcohol Syndrome (FAS). The Division sponsored workshops, developed and distributed educational material on FAS, and launched a major media campaign to increase public awareness and understanding of Fetal Alcohol Syndrome. The Boston University School of Medicine and the Eunice Kennedy Shriver Center negotiated contracts with the Division for both fiscal years 1984 and 1985 to provide training, consultation, and evaluation for health care providers who come in contact with expectant mothers and at-risk newborns.

*Tertiary Prevention—During fiscal year 1984, the Division supported the following tertiary prevention projects: 49 halfway houses, 23 detoxification centers, 47 outpatient programs, and 2 public inebriate programs. In addition, the Division initiated several projects, including a public inebriate project/shelter funded jointly by the Department of Public Welfare and the Division of Alcoholism, and a special residential project for youth cofunded by the Divisions of Alcoholism and Drug Rehabilitation.

The Division of Alcoholism's prevention efforts have had a positive and constructive effect on the problem of alcohol abuse and alcoholism as demonstrated by a decline in the number of deaths from cirrhosis of the liver and in the number of drunk-driving fatal accidents. In 1982, the deaths from cirrhosis of the liver declined to 744 as compared to the peak of 1,191 deaths in 1973, an impressive drop of 37.5 percent in one decade. During the same period, drunk-driving fatal accidents dropped from 857 to 613.

DIVISION OF DRUG REHABILITATION

Since its transfer to the Department of Public Health in 1982, the Division of Drug Rehabilitation has concentrated on strengthening its provision of services and administrative capabilities. A new internal organization and a revitalization of regional program management have resulted in improved communication among the Division, providers, and the community.

During fiscal year 1984, the Division continued to fund seven categories of basic services:

*Residential Detoxification Services—The Division funded two programs to remove the medical risk involved in detoxification, and to prepare patients for continued treatment of drug abuse problems.

*Outpatient Methadone Detoxification Services—The Division funded five short-term programs (21 days) to prepare the opiate-addicted for continued, preferably drugfree, treatment.

*Outpatient Methadone Maintenance—The Division funded five programs for addicted persons who require chemotherapy beyond the 21-day detoxification, as well as a structured counseling program.



Group therapy session at Spectrum House, Westboro.

*Residential Drug-Free Treatment—The Division funded 11 programs for persons unable to remain drug-free while living in the community, and who need individual, group, and family counseling, family rehabilitative services, and aftercare.

*Outpatient Drug-Free Counseling Services—Sixty-one programs were funded by the Division for drug dependent or abusing persons who can benefit from regularly scheduled counseling services on an individual, group, and family basis.

*Prevention Services—Forty-seven programs were funded by the Division to provide a wide range of activities designed to prevent persons from moving along a continuum of risk. Services included prevention education, community prevention activities, and intervention programs.

•Special Projects—The Division funded 17 special projects, which included vocational education, services for the pregnant addict, day treatment, and counseling for the incarcerated. In addition to the seven basic services, the Division funded 10 Specialized Job Training and Facility Refurbishment contracts.

Two important achievements during the fiscal year were:

The improvement of service distribution, particularly for the Hispanic population and clients in the criminal justice system, through expansion of treatment and prevention services for Hispanics, and better communication and planning with the Department of Correction.

•A cooperative funding effort with the Division of Alcoholism for a short-term residential program as a major step toward improved coordination of service funding and delivery.

ENVIRONMENTAL HEALTH SERVICES

The Bureau of Environmental Health Services includes the Environmental Hygiene Unit, the Radiation Control Program, the Division of Food and Drugs, Community Sanitation, and the Childhood Lead Paint Poisoning Prevention Program. Specialists in the Bureau identify and evaluate environmental hazards to human health and develop corrective measures to reduce such risks.

ENVIRONMENTAL HYGIENE

The Environmental Hygiene Unit sought ways to reduce indoor air pollution, which has become an increasing concern among Massachusetts residents. During 1984, field studies were carried out for carbon monoxide, asbestos, carbon dioxide, and hydrogen sulfide, as well as for the physical parameters of temperature and humidity, which may affect the intensity of these pollutants.

The Unit responded to emergencies involving hazardous materials such as industrial solvents, polychlorinated biphenyls (PCBs), epoxy resins, and infectious waste. Some of the emergency responses resulted from a fire in a leather factory in Peabody, a fire at North Station, a spill of transformer fluid containing PCBs, and a fire in a research laboratory working with recombinant DNA. None of the accidents posed a threat to the public health.

The Unit also administered the urea formaldehyde foam insulation (UFFI) repurchase program. In 1984, the Department promulgated new UFFI repurchase regulations, which permit any owner of a UFFI-insulated building to request, through the Department, the removal of the insulation and subsequent restoration of the building at the expense of the installer or suppliers of the UFFI. Over 2,000 inquiries were received, and more than 650 requests for repurchase have been filed with the Department. Continued legal challenges to the regulations by the formaldehyde industry slowed progress to implement the regulations.

The Environmental Hygiene Unit is responsible for administering portions of the state's Right-to-Know Law. The Unit reviewed exemption for research laboratories and for manufacturers claming trade secrets, and released information on Material Safety Data Sheets (MSDs) to medical personnel. The Unit also participated in 12 seminars for government agencies and industrial groups, and reviewed the training module developed as a model for employees. A telephone information service was also established.

RADIATION CONTROL

The Radiation Control Program, which is responsible for protecting the public from both ionizing and nonionizing sources of radiation, carried out 1,300 surveys of diagnostic x-ray units in hospitals, private medical and dental offices, as



Member of Radiation Control Program prepares Gamma Analysis Detection Equipment for testing environmental samples for low levels of radioactivity.

well as inspections of nuclear medicine departments and users of radioisotopes. A special survey program was conducted to study radiation safety efforts at approximately 100 universities and colleges. Program personnel also surveyed color TV receivers, video display terminals, devices that use lasers, sun tanning lamps, and various consumer products containing radioactive materials.

The major accomplishment of the Radiation Control Program for fiscal year 1984 was reducing radiation emitted by x-ray units throughout the state. Staff surveyed 2,433 dental x-ray units, of which 1,328 were giving a higher patient dose than the average. By recommending techniques to reduce exposure, the Program was able to prevent public exposure to over one million roentgens of radiation per year in the Commonwealth.

Another important accomplishment was adoption of the first public exposure regulation for radiofrequency and microwave radiation by any state. The regulation represented a positive effort to prevent harmful effects caused by exposure to nonionizing radiation and to help minimize public fear and concern by establishing state standards.

A continuing activity of the Program was the extensive environmental surveillance and inspection of fixed nuclear power stations — two in Massachusetts and one in Vermont on the Massachusetts border. Personnel visited the sites every week to ensure the proper operation of monitoring equipment. In addition, the Program participated in full-scale emergency response exercises at the three nuclear reactor facilities. Staff also conducted a series of training programs for emergency workers in the 10-mile emergency planning zones around the Pilgrim, Rowe, Vernon and Seabrook nuclear power plants to ensure the capability of the workers to perform their assigned functions in an emergency.

Staff of the Radiation Control Program, responsible for responding to radiation accidents and incidents throughout the Commonwealth, served as the principal coordinators of the Nuclear Incident Advisory Team (NIAT) and participated in monthly training sessions.

Staff also cooperated with the U.S. Nuclear Regulatory Commission (NRC) to locate and survey over 600 cast-iron table bases suspected of being contaminated with radioactive material accidentally smelted into the raw material. The Program found 196 table bases to be contaminated and removed them from public access. Exposure to the public from these contaminated table bases was minimal and presented no deleterious effects to the public health.

The Radiation Control Program maintained responsibility for approving plans for radiation protection for all facilities involved in construction, alterations or reconstruction. In addition, personnel served as primary control experts for other state agencies, such as the Departments of Environmental Quality Engineering, Energy, Public Safety and Transportation, and the Civil Defense Agency.

COMMUNITY SANITATION

The Division of Community Sanitation monitors and enforces compliance with sections of the State Sanitary Code that relate to housing, recreational camps for children, and farm labor camps; reviews environmental and sanitation conditions for correctional facilities and local lock-ups; provides funding and technical assistance for rodent and nuisance control; inspects microwave ovens, and monitors water fluoridation facilities. Education is a critical part of the Division's services to Massachusetts residents, including both classroom and field instructions.

Considerable attention was devoted to housing quality during this reporting period (1984). More than 300 inspections of residential dwellings were conducted.

The number of complaints received by the Division about enforcement of the code by local enforcement agencies increased over the previous year. Problems surfaced in a number of communities, and the Department assumed jurisdiction for enforcement of the standards in nine cases.

Several of these cases subsequently resulted in criminal action against the owners.

The Division held a major statewide training session to explain changes in the code, with primary emphasis on new regulations dealing with asbestos repair and removal.

Primary responsibility for inspection of the recreational camps and issuance of licenses belongs to the local municipalities. During the summer, the Division inspected 46 of the 500 camps in the state. Staff provided a training program for Boston camp inspectors in March 1984 and made available prototype application and inspection forms. In June, staff conducted 15 on-site inspections of Boston camps as part of the training process.

Eighty-six camps reported 398 injuries, most of which were minor. One sports camp, however, reported an unusually high number of serious injuries and an investigation was initiated by the Division.

Staff of the Division also inspected and certified 33 farm labor camps with an occupancy of 299 workers. These camps are mostly in regions that grow cranberries and apples.

Staff of the Division inspected most of the 35 state and county correctional facilities twice during the year. Inspections showed that serious overcrowding continued to exist although the facilities were taking measures to improve sanitary conditions. Inspections of Department of Youth Services' facilities were carried out as part of the Office for Children's certification process.

The Division worked closely with the staff of the special legislative commission investigating suicides in municipal detention facilities. As a result of the commission's report, the Department has begun to draft regulations for the construction of new facilities and maintenance of old ones. Plans were approved during the year for the construction of eight new lock-ups.

Cooperating with the Division of Dental Health's Fluoridation Program, staff sanitarians performed quarterly inspections of the fluoridation equipment in the 102 communities with fluoridated public water supplies.

CHILDHOOD LEAD POISONING PREVENTION PROGRAM

The Department's Childhood Lead Poisoning Prevention Program (CLPPP) has two major responsibilities: to prevent lead poisoning among children under the age of six, and to identify and provide rapid intervention services to children already affected by elevated blood-lead levels. Fiscal year 1984 recorded substantial progress.

Approximately 135,000 children, or 36 percent of all children between the ages of six months and six years, were screened. Laboratory staff analyzed 118,500 blood specimens for lead or erythrocyte protoporphyrin levels. Of these specimens, 2,600 (2 percent) had unacceptable levels of lead.

There was a 44 percent decline in the number of high-risk cases — 201 in fiscal year 1984 as compared to 359 in 1983.

As a result, more attention was directed to moderate-risk cases. The increase in screening and the decline in the number of high-risk cases can be attributed to more projects funded by the Maternal and Child Health Section of the Division of Family Health Services, which provided regular lead screenings, regular CLPPP inservice education seminars, daily counseling by pediatric health care providers, and more rapid and accurate laboratory analyses. Another factor is the increasing national and statewide concern about lead poisoning.

The regionalization of case management services, through the addition of five part-time public health nurses, has resulted in quantitative improvements in coordinated medical and environmental follow-up, and the inclusion of Class II, moderate-risk children for the first time. Of the 686 newly identified children enrolled during the fiscal year, 485 (71 percent) were Class II children. In all, the Division provided case management services to 1,126 children, nearly double the number served in the previous year. During the year, 334 children were discharged from the program after abatement of residential lead hazards and the return of blood levels to an acceptable status. At the close of the fiscal year, 953 children were still enrolled statewide.

During the fiscal year, CLPPP staff conducted 799 housing inspections, and inspected 295 day care centers.



Employee of Childhood Lead Paint Poisoning Prevention Program retesting for lead levels in houshold paint.

The Program has continued its educational efforts to prevent lead paint poisoning. It informed realtors, banks, and residents of the provisions of the lead law, which require lead inspections and deleading of residences upon transfer of property if a child under the age of six will reside in the dwelling. The Division also gave advice and monitored blood-lead screening activities in abrasive blasting operations performed in a number of public works projects.

Funding under the federal emergency supplemental appropriation, the Jobs Bill, allowed expansion in both the number of local projects funded and the level and scope of activities of the projects. The heightened cooperation and coordination between state and federally supported programs resulted in a more effective and efficient provision of services. A record 13,700 children received screening through door-to-door and fixed site activities. State-funded projects conducted 561 initial inspections and were responsible for the deleading of 366 units. Throughout the state, 846 units were deleaded by state and local projects in fiscal year 1984.

DIVISION OF FOOD AND DRUGS

The goals of the Division of Food and Drugs, which fosters consumer protection, are:

- To ensure the citizens of the Commonwealth a wholesome and safe food supply.
- To prevent food-related illness.
- To protect consumers from unsafe, fraudulent or deceptive practices in the food, drug, medical devices, and cosmetic industries.
- To detect and eliminate the abuse of controlled substances in health care systems, drug establishments, and research institutions.
- To protect the public from potentially harmful chemicals and pesticides.
- To provide proper care and humane treatment of animals in research facilities.
- To help reduce prescription costs through identification of generic drug substitutions.

During fiscal year 1984, staff of the Division conducted more that 7,000 field inspections of seafood establishments, retail food stores, restaurants, bakeries, food processing firms, food warehouses, cold storage plants, and of drug establishments. Staff also spent over 800 hours destroying more than 53,000 illicit drug samples subsequent to final court actions.

The Division processed 448 complaints, 138 of which were referred to local boards of health or other appropriate agencies. Many of the complaints were related to food-borne illnesses and were investigated cooperatively by the Division, local health authorities, the Department's Division of Communicable and Venereal Diseases, and the State Laboratory Institute.

The Department embargoed 147 products in instances where there was sufficient evidence to suspect adulteration or misbranding. Destruction of the product was necessary in 45 cases.

Education has proven to be an effective tool in achieving compliance in the industries regulated by the Division. Educational seminars and workshops for local boards of health, industry, and Division staff were conducted during the year. The Division kept the general public informed about important issues of health and safety through press releases, a newsletter, the Division's telephone information line, and speaking engagements. The Food and Drug Reporter, a quarterly newsletter, carried articles on issues of policy and technical information to local boards of health, representatives of industry, and other interested persons.

During fiscal year 1984, the Division recorded several noteworty achievements:

- Vigorous shellfish sampling and enforcement actions, conducted in cooperation with the Division of Law Enforcement, were effective in reducing the illegal distribution of shellfish and market samples with high bacterial counts. Monitoring programs for paralytic shellfish poisoning (Red Tide) prevented contaminated shellfish from reaching the consumer.
- A comprehensive inspection and sampling program in the milk industry led to strict enforcement of regulations and the destruction of products adulterated with antibiotics.
- Food salvage and reconditioning operations for food and consumer products were closely watched by the Division. The Division determined the suitability of these products for use by consumers after investigations and laboratory analyses.
- The investigational activities of the drug control unit resulted in 27 formal charges being brought against persons for drug diversions.
- Under a federal Food and Drug Administration (FDA) contract, the Division performed sanitary inspections at 300 food establishments to ensure proper manufacturing practices.

The Division of Food and Drugs developed and revised regulations and policies in a number of areas:

- Ethylene Dibromide (EDB) Residues in Food—Because EDB, a chemical pesticide used in the United States since 1948, was found to be a strong cancer-causing agent in animals, the Department adopted strict standards to limit the amounts of EDB allowed in foods sold in the Commonwealth. Local boards of health and the Department's Regional Offices worked with the Division of Food and Drugs in ensuring the removal of all products in violation of the standards.
- Generic Drug Program—Preparation for publication of the fifth edition of the state Generic Drug Formulary was begun in fiscal year 1984. The publication will add nearly 200 new interchangeable drug products to the existing list. Health care costs, in both the public and private sectors, will be substantially reduced through the generic drug program. Estimated savings for the Medicaid program in 1984 were \$1.5 million.
- Administration of Medication in Community Settings— The Division worked on regulations to allow nonlicensed personnel in mental health programs, after completion of a training program, to administer medications.
- Prescription Privileges for Nurse Practitioners/Physician Assistants—Legislation signed by the Governor on December 12, 1983, will improve access to medical care, especially for the elderly and patients with chronic illnesses, by extending to nurse practitioners and physician assistants caring for such patients privileges of writing prescriptions. During the next year, the Division will complete final regulations to implement the legislation.
- Animal Research Regulations—The Division established an Advisory Committee to assist the Department in formulating standards and criteria for a comprehensive set of regulations governing the use of dogs and cats for research and educational purposes.
- PCBs and Bluefish—Responding to the public's concern over residual levels of PCBs in bluefish, the Division of Food and Drugs, in cooperation with the Division of Marine Fisheries and the State Laboratory Institute, obtained and analyzed bluefish from Massachusetts waters. The Division notified the public of precautionary measures to take to reduce the intake of PCBs in fish, and also prohibited the sale of PCB-contaminated fish.

The Bureau of Health Care Systems encompasses programs that aim to ensure sound health care for all people. Programs within the Bureau also have responsibility for preventing unnecessary expansion or renovations of health care facilities that add to health care costs in the Commonwealth.

HEALTH CARE QUALITY

The Division of Health Care Quality ensures high-quality preventive, curative, and rehabilitative health care at reasonable cost in hospitals, nursing homes, rest homes, chronic renal dialysis units, ambulance services, clinical laboratories, clinics, blood banks, home health agencies, state schools and community-based intermediate care facilities for the mentally retarded. In fiscal year 1984, the Division licensed 701 facilities and certified 764 facilities and services as part of its overall efforts to establish and enforce minimum standards of care. Fifty-nine of the ambulance services were licensed to provide Advanced Life Support Services.

Through its activities, the Division plays an increasingly important role in protecting the health of the people of Massachusetts. A study conducted by the Division during the fiscal year estimated that, by correcting serious patient care problems in health care facilities, the Division removes at least 490,000 patients from risk each year.

During the fiscal year, the Division initiated a major program to protect patients in long-term care facilities from abuse, mistreatment, and neglect. A Patient Abuse Task Force developed guidelines to improve investigations and inform consumers, patients, and nursing home staff of the provisions of the state's Patient Abuse Statute. As part of its outreach effort, the Division sponsored a statewide conference on patient abuse attended by more than 1,000 health care professionals. The Division also completed initial production of a film on patient abuse developed to educate health care professionals. During fiscal year 1984, the Division investigated approximately 376 separate complaints of abuse, mistreatment or substandard care of patients at the facilities it licenses. It submitted reports of 110 justified complaints to the Office of the Attorney General.

The Division responded to five emergencies when patients' health and safety were in jeopardy. Emergency action included the appointment of a nursing home receiver in one case, procurement of protective court orders in conjunction with the Attorney General in three cases, and assistance in the transfer of 113 patients from five grossly deficient long-term care facilities.

The Division initiated action to revoke the licenses of four unsuitable operators of long-term care facilities, and to decertify 13 substandard nursing homes from the Medicaid Program. It also recommended Medicare decertification of two substandard hospitals and suspension of service for two clinical laboratories. In fiscal year 1984, the Division imposed

intermediate sanctions for the first time on a large scale, using 10 separate correction orders against substandard ambulance services, and prohibiting further admission to six long-term care facilities.

The number of complaints investigated by the Division has risen dramatically over the past two years — 196 complaints during the first six months of 1984, an increase of 100 percent over the same period in 1982 (Fig. 3). The average number of

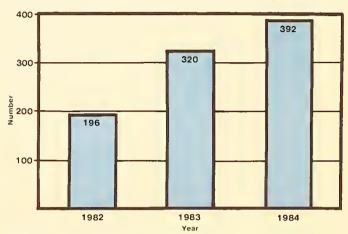


Figure 3. Total Number of Complaints Investigated by Division of Health Care Quality.

complaints of patient abuse received per month rose from 5.6 in 1982 to 13.6 in 1984. At the same time, the Division reduced the turn-around time between the initial receipt of complaints and transmittal of final reports from an average of approximately 105 days in 1982 to 60 days in 1983.

The Division worked closely with the Massachusetts Executive Office of Human Services and the federal Health Care Financing Administration to ensure the continued certification of eight state schools for the retarded. A report prepared by the Division detailed the regulatory basis for 26 buildings to receive approximately \$33 million in federal reimbursement funds at Fernald, Monson, Wrentham, Dever and Belchertown State Schools. Corrections made at the schools ensured that clients were living in buildings compliant with national fire protection standards.

Program Development and Research

To respond to changes in the health care delivery system, the Division carried out research studies, evaluations of innovative projects and development of appropriate new or revised regulations. These included:

- Survey of approximately 1,200 rest home residents in 55 facilities to determine the relevance of current licensing standards to meet the needs of rest home residents.
- Collection of extensive patient-specific and financial data on coma and head trauma units in nursing homes to be used to determine whether the plan of care and services rendered in a head trauma unit are optimally provided in a nursing home setting.

- Evaluation of three innovative emergency medical care projects for delivery of advanced life support care.
- The initiation of inspection and license of 271 clinical laboratories in physicians' offices to ensure the accuracy of data used by physicians for diagnosis and monitoring treatment regiments.

Development of Regulations

To improve enforcement capabilities and to make more efficient use of existing staff and resources, the Division promulgated extensive revisions of its hospital licensing regulations. The revised regulations permit the acceptance of accreditation by private agencies in lieu of performing a complete licensure inspection, with a resultant reduction in duplicate inspections. These changes have resulted in a saving of field staff time, thus enabling the Division to devote resources to investigation of complaints, and to monitoring and enforcing standards.

During fiscal year 1984, the Division also drafted revisions of its clinic licensure regulations. The Division was involved in the regulation of new modes of health care, providing extensive consultation to seven hospices and developing regulations for birth centers. New regulations for licensing birth centers, promulgated in December 1983, established staffing and equipment standards, standards to protect clients using birth centers in case of an emergency, and guidelines for determining whether a pregnant woman is at low risk and therefore eligible to use the services of a birth center. Massachusetts is now one of 13 states that license birth centers.

The Division continued to be involved in ensuring appropriate utilization of existing facilities. Staff completed level of care assessments of 5,000 patients in the state's licensed and public chronic disease and rehabilitation hospitals, and determined that 49 percent of all patients did not need the hospital level of care and could be appropriately served by nursing homes. The study will be used by the Executive Office of Human Services, Office of State Health Planning, in drawing up plans for appropriate utilization of the state's chronic disease hospitals.

The Division also convened a subcommittee of its Long-Term Care Advisory Committee to develop a method for identifying patients in need of extensive nursing care in nursing homes. Successful identification of these patients is crucial not only to developing a methodology for providing additional reimbursement to facilities that accept such patients but also to their placement in nursing homes rather than in chronic disease hospitals.

DETERMINATION OF NEED

The primary goal of the Department's Determination of Need (DON) Program is to ensure the people of the Commonwealth appropriate access to good quality health care at the lowest reasonable cost. Through the DON Program, the Department evaluates proposals of health care facilities for establishment or expansion of services, modernization of plants, and procurement of equipment.

During fiscal year 1984, Program staff completed reviews of 137 proposals. Of the \$96.7 million in annual operating costs associated with these proposals, \$71.9 million (74 percent) of the costs were approved; \$24.8 million (26 percent) of the costs, which would have entered the health care system, were found to be unneeded. Despite the improvement in the review process, the backlog of applications increased slightly over the previous year. This situation resulted primarily from a record high number of nursing home applications, particularly in western and southeastern Massachusetts, and a substantial number of proposals for ambulatory surgery centers submitted in response to the interest and incentives of third party payers and the Commonwealth.

Among the completed reviews were: major plant modernization projects for two large Boston hospitals; the first freestanding inpatient hospice, approved only after a thorough investigation of potentially lower cost alternatives; expansion of alcoholism treatment programs in two hospitals in the Worcester area; and expansion of services to the largely underserved pediatric psychiatric population, including proposals for Boston tertiary facilities, as well as suburban community hospitals.

Other important developments during fiscal year 1984 included:

- A New Approach to Evaluation of Applications—Strong consideration was given to incremental operating costs, including staffing, rather than to just the analysis of capital costs.
- Adoption of Guidelines for the Ranking and Budgeting of DON-Related Increases to Hospital Costs—In August 1983, the Department adopted specific guidelines for the filing cycle beginning September 1, 1983, which established a \$54 million target as the ceiling for hospital-related DON applications.
- Increasing Efficiency of Reviews—To maintain thorough reviews of costly projects and to reduce the backlog of DON applications, the DON office revised and updated filing procedures and instructions to produce more and consistent information. In addition, the Program has taken steps to obtain automated data processing capability to manage more efficiently its important information base.
- Updating Methodologies—The DON Program played a major role in updating methodologies for evaluating ambulatory surgery, computerized tomography (CT) scanning, mental health clinics, alcoholism services, digital radiography, and management information systems. The Program also participated in establishing current policy for nursing homes, nuclear magnetic resonance, hospital plant renovation, acute medical-surgical bed need, chronic end-stage renal dialysis, and hospital corporate restructuring.

• "Group Reviews"—The increased use of "group reviews," in which a small group of staff analysts simultaneously evaluate a number of like applications, has moved the program toward greater efficiency with limited resources.

EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS) coordinates the state's emergency medical system to reduce morbidity and mortality from sudden illness. Working with the Division of Health Care Quality, the Emergency Medical Care Advisory Board, and the Regional EMS Councils designated by the Department, the Office participated in the delivery of effective emergency care by:

- Setting and enforcing standards to ensure quality medical care for emergency patients.
- Training and certifying prehospital and emergency department personnel.
- Monitoring the scope and quality of care provided.
- Educating the public in life-saving procedures.

The major accomplishments of the Office in fiscal year 1984 included improvements in public health through four programs or services:

Prevention, Early Intervention, and Service Coordination

In fiscal year 1984, the program for coordinating the development of prevention and early intervention programs was strengthened by the designation of six Regional Councils by the Department. Working with these councils, the OEMS organized and supported a wide range of activities to improve, access to care, ensure the quality of system response, and to link organizations that serve emergency patients. Improving citizen access has been an important objective of these efforts. By the end of the fiscal year, 38 percent of the population was covered by 9-1-1 access systems. Consistent with the national objective, the Commonwealth is aiming for 91 percent coverage by 1991.

First Responder and Basic Life Support

Massachusetts EMS legislation required the training of all public safety officers as First Responders and the training and certification of ambulance service personnel as Emergency Medical Technicians (EMTs). More than 1,800 First Responders were trained in 1984, and 1,875 persons were trained as Emergency Medical Technicians, 1,125 of whom were certified as EMTs through 109 EMT courses. Continuing education needs have been met through 1,820 refresher and continuing education programs.

Advanced Life Support

Advanced Life Support (ALS) Services, which provide sophisticated treatment to victims at the scene of accident or illness, require specially trained advanced EMTs and medical control provided through emergency physicians at affiliated hospitals. OEMS reviewed and approved 13 ALS training pro-

grams (up from nine in 1983), nine refresher courses (up from four), and 386 continuing education courses, a substantial increase over the 44 courses given in the previous year. Five of the ALS training courses were supported through the Preventive Health Services Block Grant.

By the end of the fiscal year, 64 of the 331 licensed ambulance services in the state were providing intermediate level service, and 32 were providing paramedic level service to 65 of the 351 municipalities in the state. This coverage was provided to over 1.5 million people, 27 percent of the population. Of the 11,000 Emergency Medical Technicians in Massachusetts, approximately 250 were intermediate EMTs, and 213 were paramedics.

Hospital Emergency Department and Definitive Care

OEMS was also involved in triage and treatment of patients in emergency departments and in critical care services. During the fiscal year, six Central Medical Emergency Direction Centers continued in operation in four regions and two were established in two other regions. The system handled more than 40,000 calls in 1984 and provided the link from ambulance to hospital, and from hospital to hospital. Professional education included a program on the treatment of victims of violence for emergency department nurses and physicians, and the initiation of a comprehensive program on pediatric emergencies that trained more than 100 emergency department nurses. The Critical Care Emergency Department Nurse Education Program trained 150 nurses, to bring the total trained in the 10-year history of the program to more than 1,200.



Members of Boston's Department of Health and Hospitals, EMS team, receive Stork Pin Awards from Frank Keslof, Director, Office of EMS, for saving life of an infant during complicated emergency home birth.

HEALTH STATISTICS AND RESEARCH

The Division of Health Statistics and Research carried out its major functions of collecting, analyzing, interpreting, and disseminating statewide data on vital events (births, deaths, marriages, divorces, and induced abortions), cancer incidence, and licensed health facilities. As the officially designated Massachusetts State Center for Health Statistics, the Division fulfilled its broader responsibility to coordinate health data among agencies that collect and use such data, to provide statistical standards and technical assistance to users of health and demographic data, to identify trends so that programmatic responses could be initiated, and to serve as a clearinghouse for information on resources of public health data. In addition, the Division continued to make improvements in both basic data collection systems and analytic capabilities.

During fiscal year 1984, the Division recorded the following accomplishments:

- The Registry of Vital Records and Statistics processed and analyzed reports of approximately 250,000 births, deaths, marriages, divorces, and abortions, which were summarized in the Annual Report of Vital Statistics. In addition, the Registry verified approximately 150,000 legal copies of vital records, processed 10,000 amendments and corrections, provided 50,000 certified records and 30,000 medical research and abstract copies of records, and provided technical assistance to 3,500 lawyers and representatives of state and federal agencies and to 7,000 genealogists who regularly use the records.
- In an effort to increase efficiency and reduce response time to public inquiries, the Registry of Vital Records and Statistics began implementation of plans for the complete automation of its activities.
- The Massachusetts Cancer Registry released its first annual report, *The 1982 Annual Report of Cancer Incidence* (Fig. 4). Patterns of cancer by town were available for the first time.

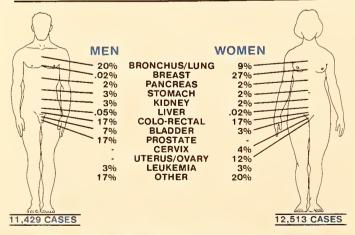


Figure 4. Cancer incidence in Massachusetts, 1982.

The most important finding was the high number of cases of lung cancer, especially in women, throughout the state. Findings of excess cervical cancer in southeastern Massachusetts may lead to increased public education on the need for widespread screening. As a result of another finding, a kidney cancer study in the Merrimack Valley is scheduled to begin in fiscal 1985.

• Cancer Registry data continued to be a resource for other divisions of the Department, principally Environmental Epidemiology and Toxicology, in investigations of cancer incidence in cities and towns. Cases of Kaposi's sarcoma were reported to the Division of Communicable and Venereal Diseases, summaries of childhood cancer incidence prepared for the Division of Family Health Services, and statistical analyses of incidence of oral cancer carried out with staff of the Division of Dental Health. Numerous requests were received from citizens, health professionals, and the media; available data were provided when appropriate.

During the year, the Cancer Registry completed quality assurance reviews at the remainder of hospitals not visited in the previous year. It also completed the computerized edit/update program.

- The Health Resources Statistics Unit made progress in eliminating the severe backlog in health facilities data that has existed for several years since the National Center for Health Statistics ceased funding the collection of statewide data. As a result, all users of data in the state were able to receive updated information. To improve ease of access to surveys of previous years and to reduce the volume of paper stored in the Unit, staff began the microfilming of all 1973 to 1980 health surveys.
- In addition to collaborative activities with other Department divisions and with the Center for Health Promotion and Environmental Disease Prevention, the Research and Epidemiology Unit completed several research reports during the fiscal year: The Impact of Years of Life Lost in Massachusetts (1979-1981), Cesarean Birth in Massachusetts, and the Massachusetts Health Status Indicators. A paper on the relationship of health status and economic factors to health promotion programs was also prepared.
- The Research and Epidemiology Unit prepared a prospectus that outlined possible epidemiologic approaches to the study of the relationship of video display terminals to reproductive outcomes, which was submitted to the National Institute for Occupational Safety and Health.
- In addition to processing over 100 data requests per month and providing regular consultation to several other Department units and other state agencies on computer programming and data management, the Public Information/Data Management Unit completed programming projects and focused on improvements in the Division's data collection and management system.
- In June, the Division began publication of a quarterly newsletter, *Data Notes*, to be distributed to over 1,000 users of data both within and outside state government.

LABORATORY SERVICES STATE LABORATORY INSTITUTE

The sound basis of scientific knowledge and analytical procedures that have been established at the State Laboratory Institute proved invaluable as the Department was frequently called upon during the year to determine a course of action for management of complex health problems. Through its continuing efforts in applied research and development, the State Laboratory has developed effective technologies to assess health risks rapidly, and has been a pioneer in the production of intervention materials. Health services are provided by four major program divisions at the Institute: Biologic Laboratories, Newborn Screening Program and Laboratories, Diagnostic Microbiology Laboratories, and Food and Environmental Laboratories. Forensic services are provided by the Drug Analysis Laboratories. Table 1 summarizes the activities of the State Laboratory Institute.

Table 1. STATE LABORATORY INSTITUTE Laboratory Services July 1, 1983 - June 30, 1984.

Program (unit of measure)	Number
Biologics (immunizing doses produced)	
Serums	79,500
Vaccines	867,640
Total number of human doses	947,140
Newborn Screening (children tested)	
Massachusetts	77,488
Other New England states	84,972
Total number of children screened	162,460
Microbiology (samples tested)	
Bacteriology	131,663
Mycobacteriology	30,120
Virology and rabies	12,261
Serology	122,501
Clinical investigations	5,370
Total number of samples	301,915
Food and Environmental (samples tested)	
Food safety	10,495
Environmental	800
Total samples tested	11,295
Orug Analysis (samples tested)	
Cocaine	7,814
Heroin	7,206
Marijuana	43,753
Other controlled substances	10,418
Total samples tested	69,191

BIOLOGIC LABORATORIES

The Biologic Laboratories manufacture, test, and develop biologics to assure the availability of human vaccines and serums to Massachusetts residents. During fiscal year 1984, the Biologics Laboratories produced three immunizing agents and maintained a secure production capacity for diphtheria, tetanus, pertussis (DTP) childhood vaccine, the cornerstone of children's immunization programs. The three new immunizing agents are:

•Varicella Zoster Immune Globulin (VZIG)—The laboratories expanded production of this unique serum that is used to prevent chickenpox in children with leukemia, pregnant women, and other high-risk groups. Massachusetts serum is distributed nationally through the American Red Cross.

*Cytomegalovirus Immune Globulin (CMVIG)—Clinical trials were continuing for CMVIG, which prevents a deadly viral infection in premature infants and other high-risk groups. Licensure is expected within two years.

*Bacterial Polysaccharide Immune Globulin (BPIG)—Continued clinical trials of the serum indicated that it may protect children from such life-threatening bacterial infections as meningitis, pneumonia, and otitis media (middle ear infections). Licensure of the product for general use is expected within three years.

The Biologic Laboratories, which have been in use since 1914, and were last updated in 1956, were undergoing major renovations scheduled to be completed in January 1985. Vaccine stores had been increased before the start of the \$1.6 million renovation project to ensure availability during shutdown caused by construction.

NEWBORN SCREENING

The Newborn Screening Program and Laboratories provide accurate, rapid diagnosis of inborn errors of metabolism and of hypothyroidism and clinical follow-up for the determination of the most effective means of treatment.

Despite decreases in federal funding for newborn screening over the past four years, all newborn screening services continued to be offered. Support for the core testing services of screening newborns for phenylketonuria (PKU) and hypothyroidism was provided by redirected state funds within the State Laboratory budget. Funding from the National Institutes of Health permitted follow-up of afflicted children to determine the effectiveness of treatment. Screening of Massachusetts newborns for other metabolic disorders that are detected in urine samples has completed its third year on a fee-for-service basis. Screening of newborns from other New England states is also carried out at the Massachusetts

Table 2.

Regional Newborn Screening Program
Children Screened for Hypothyroidism
July 1, 1983 - June 30, 1984.

State	Children Tested	Number Identified as Hypothyroid	Annual Incidence Rate per 100,000
Connecticut	41,643	12	28.8
Maine	15,914	5	31.4
Massachusetts	77,488	17	21.9
New Hampshire	14,369	4	27.8
Rhode Island	13,046	7	53.7
Total	162,460	45	

laboratories on a fee basis (Tables 2 and 3). Testing of newborns on a regional basis for these diseases, which cause severe illness in children if not detected for early treatment, has been recognized as prudent public health practice. Because the Massachusetts laboratories test such large numbers of children, the Newborn Screening Program has been able to provide tests of high quality at a low unit cost.

DIAGNOSTIC MICROBIOLOGY LABORATORIES

The Diagnostic Microbiology Laboratories analyze clinical specimens to determine the cause of severe illnesses due to communicable diseases, and to guide correct treatment and effective preventive measures. A wide range of infectious disease services were provided through seven programs.

*The Virology Laboratory served the clinical needs of the Massachusetts medical community for the diagnosis of common and unusual viral infections, and conducted surveillance programs for influenza and eastern encephalitis, as well as for measles, mumps, and rubella. During the past year, significant advances were made by the Virology Laboratory in the application of fluorescent antibody techniques for the rapid diagnosis of disease, particularly effective in the diagnosis of human eastern encephalitis.

The laboratory received 11,418 specimens for analysis, which resulted in over 30,000 discrete examinations. With expanded laboratory capabilities for the identification of herpes virus infections, the laboratory was able to test significantly more specimens. The Virology Laboratory continued to test thousands of mosquitoes for eastern encephalitis.

 The Rabies Laboratory analyzed 843 animals that were suspected of being rabid and provided emergency testing

Table 3.

Regional Newborn Screening Program
Children Screened for Metabolic Disorders*
July 1, 1983 - June 30, 1984.

	Children Tested	Number of Metabolic Disorders Identified				
Maine	15,914	2	1	0	0	
Massachusetts	77,488	6	0	3	0	
New Hampshire	14,369	3	0	0	0	
Rhode Island	13,046	3	1	0	0	
Total	120,817	14	2	3	0	

*Connecticut Health Department tests children for PKU and other metabolic disorders.

services to ensure any citizen exposed to rabies prompt and appropriate treatment. The only significant animal reservoir for rabies virus in Massachusetts was the bat. Of the 208 bats submitted to the laboratory, 16 (7.7 percent) were found to carry rabies virus. Because rabies has been spreading up the Atlantic coast via other species such as racoons, the Rabies Laboratory has maintained intensified surveillance.

•The Serology Laboratory analyzed 122,501 samples for evidence of syphilis infection. Data from the tests directed treatment of, and prevention efforts for, syphilis through the Department's Venereal Disease Control Program.

*The Bacteriology Laboratory provided diagnostic services to physicians, clinics, and state and local health officials for the identification of bacterial pathogens. The Special Reference Program tested 3,484 samples for unusual and difficult-to-identify bacteria such as the Legionnaires' disease organism (19 cases in 360 tests), pertussis (24 cases found in 154 samples submitted), and listeriosis. In July 1983, the laboratory was able to detect an unexpected increase of listeriosis and alerted state epidemiologists.

The Enteric Pathogens Program, important in the control and prevention of foodborne illness, tested 12,775 specimens and identified 8,476 pathogenic bacteria, an increase in both the number of samples tested and in the number of positive results. The number of salmonella isolates from persons reporting food poisoning remained high, with 37 percent of tested cases confirmed. The extremely high rate of positive findings (68 percent) in suspected campylobacter infections reflected the recently developed improvements of the organism, now recognized as a major cause of food and waterborne illness. Outbreaks of salmonella infections occurred in a day care center, a nursing home, and two restaurants. Shigellosis was also diagnosed at a day care center.

^{**}PKU = phenylketonuria; GAL = galactosemia; MSUD = maple syrup urine disorder; HCYS = homocystinuria.

The Throat Culture Program provided physicians and clinics with a rapid, accurate method of identifying group A streptococcal infections. The program tested 64,494 specimens and provided physicians with reports within 24 hours of receipt of the specimen.

The Gonorrhea Program tested over 49,000 specimens, which were received primarily from community health clinics. The program also served as a reference laboratory for hospitals and clinical laboratories for the identification of problem cultures.

The Mycology Program tested 537 samples for pathogenic fungi. Many of the infections caused by these organisms occur in chronic disease, hospitalized patients who have lowered defenses against infection by these common environmental organisms. Laboratory diagnosis of these rare illnesses—such as brucellosis, aspergillosis, and histoplasmosis—is essential to effective treatment.

The Parasitology Program, another specialized service provided to physicians throughout the state, examined 330 specimens. The most frequent positive finding was *Giardia lamblia*, the cause of giardiasis, a diarrheal disease that has now been added to the Department's list of reportable diseases.

•The Mycobacteriology Laboratory tested an average of 115 specimens per day from patients with severe respiratory illness. The primary pathogen of interest in this diagnostic laboratory is the tuberculosis bacillus. Because this class of microorganisms presents special risks to laboratory personnel, all work with the organism is done in a specially designed laboratory to protect workers from exposure.

•The Laboratory Training Program provided training and consultation to the 200 clinical laboratories in Massachusetts. Seven intensive training courses were taught in three specialty areas—clinical microbiology, laboratory safety, and laboratory management. The program is accredited by the American Society of Microbiology and can award continuing education credits.

•The Clinical Investigations Laboratory, formerly called the Hepatitis Reference Laboratory, expanded its services to respond to a demand for expert consultation and to fill a need for difficult diagnostic services for severely ill patients. The laboratory's staff completed the laboratory component of a study of the efficacy of the newly licensed hepatitis B vaccine. The study was conducted in a volunteer group of health care workers from seven Boston hospitals. Staff also coordinated two clinical trials of CMVIG produced by the Biologics Laboratories.

FOOD AND ENVIRONMENTAL LABORATORIES

The Food and Environmental Laboratories analyzed foods to ensure freedom from contaminants and assayed en-



Staff of Diagnostic Microbiology Laboratories testing for hepatitis virus.

vironmental and human samples to detect the presence of harmful chemicals. During fiscal year 1984, the Food and Environmental Laboratories performed nearly 41,000 chemical, microbiological, and physical analyses of foods to ensure the safety and quality of the food supply. Human blood samples were analyzed to measure exposure to hazardous chemicals. Major efforts included:

*Norwood PCB Incident—The laboratory provided sophisticated analyses of blood samples from a group of Norwood residents who were living near a site that was contaminated with PCBs.

*Bluefish Contamination—A study conducted with the Division of Marine Fisheries assessed the level of PCBs in bluefish found in Massachusetts waters. Because bluefish have a high fat content, they have been found to store higher levels of PCBs than many other fish species. Surveillance will continue on an annual basis.

*Carcinogens in Food—The State Laboratory was one of several state laboratories that cooperated with the federal Environmental Protection Agency in analyzing contamination



Testing for EDB, Food and Drug Laboratories, State Laboratory Institute.

of foods with EDB, and contributed to the evaluation of contamination levels of the carcinogen in foods.

FORENSIC SERVICES

The Drug Analysis Laboratories analyzed drugs confiscated in the illicit market by law enforcement agencies. More than

3,000 samples of cocaine were analyzed, and results used in criminal cases. Over 600 heroin samples were analyzed. Lysergic diamide acid (LSD) cases showed a significant increase in frequency in the past year. The geographic distribution of drug seizures indicated the widespread nature of the general problems of drug abuse, especially cocaine.

COMMUNICABLE AND VENEREAL DISEASE CONTROL

The Division of Communicable and Venereal Diseases conducts health surveillance and disease control activities to guard the health of the people of the Commonwealth. This is accomplished through testing, vaccination, treatment, analysis of disease trends, and the assessment of threats to the people.

COMMUNICABLE DISEASE CONTROL

The statewide immunization programs of the Department, which expanded as new vaccines became available, continued to record progress in controlling measles, mumps, and rubella:

*Measles—Nine cases of measles, four of which were imported, were reported in calendar year 1983.

•Rubella—Eight cases of rubella, four of which were imported, were reported in calendar year 1983.

Mumps—Twenty cases of mumps were reported in calendar year 1983, the lowest number ever

reported in Massachusetts, a drop of 55 from the 75 cases in 1982.

The Department will be able to maintain this record as long as it continues to immunize approximately 125,000 children each year with the measles/mumps/rubella (MMR) vaccine. This program has not only prevented illness and death, but has saved the Commonwealth over \$19 million annually in actual costs for medical care and institutionalization of patients.

Massachusetts has been polio free since the last case of polio was reported in 1968. The Commonwealth will continue to be polio free as long as the Department administers 450,000 doses of trivalent Sabin oral polio vaccine annually. The annual immunization survey of children (66,216) entering kindergarten in September 1983 showed that more than 99 percent had already received three or more doses of polio vaccine. The percentage of these children immunized against polio and the six other immunizable diseases showed impressive increases over 1974 (Table 4).

Table 4.

Percentage of Immunized Children Entering Kindergarten
1974 - 1984.

												Percent
												Increase
												Over
	'73-74	'74-75	'75-76	'76-77	'77-78	'78-79	'79-80	'80-8 1	'81-82	'82-83	'8 3-84	'73-74
DTP*	88.6	93.51	95.04	96.21	95.82	96.99	97.57	98.10	97.88	98.37	99.15	11.91
Polio	86.2	92.04	94.10	95.84	94.25	97.50	97.95	98.13	97.71	98.07	99.09	14.95
Measles	90.3	93.53	94.60	96.21	98.32	98.60	98.86	99.09	98.82	99.07	99.60	10.30
Mumps	59.3	69.19	78.00	84.56	89.83	92.79	98.69	99.06	98.79	99.06	99.60	67.96
Rubella	62.0	70.41	78.51	84.55	90.04	93.22	98.67	99.06	98.79	99.06	99.60	60.65

^{*}DTP = Diphtheria, Tetanus, Pertussis (Whooping Cough).

During the 1983-1984 school year, the Division of Communicable and Venereal Diseases also surveyed more than 98,000 school health records of new children entering grades 1 to 12 in both public and private schools. Immunization levels for these children were: DTP, 97.78 percent; polio, 97.92 percent; measles, 98.93 percent; mumps, 98.69 percent; and rubella, 98.77 percent. The Division continued its survey of children (78,371) in day care centers and found increases in the rates of immunization over previous years (Table 5).

Massachusetts, which has eliminated diphtheria, tetanus, and polio, has almost entirely eliminated measles, mumps, and rubella. There were 40 cases of pertussis in children who were not immunized, or who had received less than three doses of pertussis vaccine. Within the next two years, pertussis should be eliminated.

During fiscal years 1982 and 1983, the Division conducted serologic surveys among a random number of students in grades 1, 6, 8, and 12, under a contract with CDC to determine the persistence of antibodies against measles, mumps, and rubella. The survey found that 98 percent of the students had neutralizing antibodies against measles and rubella more than 12 years after immunization. The testing for mumps antibody has not been completed. The 98 percent effectiveness of the measles/mumps/rubella vaccine indicates that the second dose of MMR vaccine is unnecessary, and will save the Commonwealth millions of dollars.

Since more and more of the cases of immunizable diseases in Massachusetts are coming from other states and countries, state legislation was recently introduced requiring college and postgraduate students coming to the state to be immunized against diphtheria, tetanus, polio, measles, mumps and rubella. The bill, when enacted, will be effective in September 1985 and will greatly reduce the incidence of imported, immunizable diseases.

The Division accurately predicted a severe influenza season for Massachusetts. Reports of laboratory-confirmed influenza began during the first week of January 1984 and continued at an unusually high rate throughout the season. Approximately 1.5 million cases of influenza were reported statewide among

all age groups. School children, college students, and young adults under age 25 were the most severely affected. A total of 37 communities experienced laboratory-confirmed influenza of epidemic proportions, and six other communities reported severe outbreaks.

The State Laboratory Institute confirmed three flu strains (A/Philippines, A/Brazil, and B/Singapore). Anticipating these strains, the Division distributed 242,510 doses of double-strength vaccine to protect persons most vulnerable to the adverse effects of influenza; 234,507 high-risk persons were vaccinated. As in the past three years, the influenza vaccine was well tolerated and reaction-free. Eighty percent of the flu shots were given to the elderly or nursing home residents, who experienced an unusually low incidence of influenza. Preliminary data from the Department indicated a reduction of 52 percent in the pneumonia and influenza death rate as compared to the state's last flu epidemic during the 1980 to 1981 season. As the immunization rate has increased among high-risk residents, the mortality rate from both pneumonia and influenza has decreased.

During fiscal year 1984, three cases of babesiosis, a malarialike disease, were reported and investigated.

Six cases of eastern encephalitis were reported in patients living in southeastern Massachusetts, whose ages ranged from 11 to 65. Two of the patients died and three recovered without neurologic or psychiatric damage.

Seven cases of Lyme disease, which is caused by a spirochete responsive to penicillin and other antibiotics, were reported.

Acquired Immune Deficiency Syndrome (AIDS)

Reporting of cases of Acquired Immune Deficiency Syndrome (AIDS) to the Department was made mandatory on November 10, 1983. All cases of AIDS are reported directly to the Department as a special disease. Forty confirmed cases of AIDS were reported in the state through calendar year 1983, as compared to 16 cases in calendar year 1982. The 40 cases were Massachusetts residents plus 10 out-of-state residents living in Massachusetts. The Division has had ongoing discussions with the homosexual community, Haitian community, health providers, the Red Cross, and other con-

Table 5. Percentage of Immunized Children in Day Care Centers 1976 - 1984.								Percent Increase		
	1975-76	1976-77*	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	Over 1975-76
DTP**	86.73		90.99	94.23	95.60	95.94	96.29	96.77	97.55	12.48
Polio	85.71	_	89.83	94.91	96.13	96.70	96.87	97.52	97.98	14.32
Measles	89.31		93.22	95.83	96.79	97.54	97.83	98.11	98.78	10.60
Mumps	77.27	_	85.93	92.78	96.28	97.29	97.79	98.07	98.77	27.82
Rubella	76.00	_	85.36	92.46	96.27	97.31	97.77	98.03	98.78	29.97

'No survey had been conducted in 1976-1977.

**DTP = Diphtheria, Tetanus, Pertussis (Whooping Cough).

cerned organizations to deal with this serious public health problem.

A Massachusetts AIDS Task Force, chaired by the Commissioner, was established by the Governor and the Executive Office of Human Services in the summer of 1983 to review and assess the state's monitoring, educational, and treatment efforts relating to AIDS. The Task Force and the Department jointly issued a brochure to assist physicians and health care providers in caring for AIDS patients.

VENEREAL DISEASE CONTROL

In accordance with national standards, the Division of Communicable and Venereal Diseases has monitored 16 sexually transmitted diseases. Of these diseases, seven are epidemic in Massachusetts and in the nation—gonorrhea, nongonococcal urethritis, trichomonas vaginitis, monilial vaginitis, genital herpes, genital warts, and scabies.

The 10,000 cases of gonorrhea reported in calendar year 1983 represented a decrease of 2.2 percent over the previous year. Gonorrhea, however, continued to be the number one communicable disease in the state (Fig. 5).

For calendar year 1983, the reported number of cases of all stages of syphilis was 916, a decrease of 1.2 percent from the 987 cases in the previous year. Cases of primary and secondary syphilis accounted for 45 percent of the cases. Division staff in the 18 cooperating state venereal disease clinics interviewed 669 (94 percent) patients with early syphilis. A total of 1,269 sexual partners were found through the interview process and

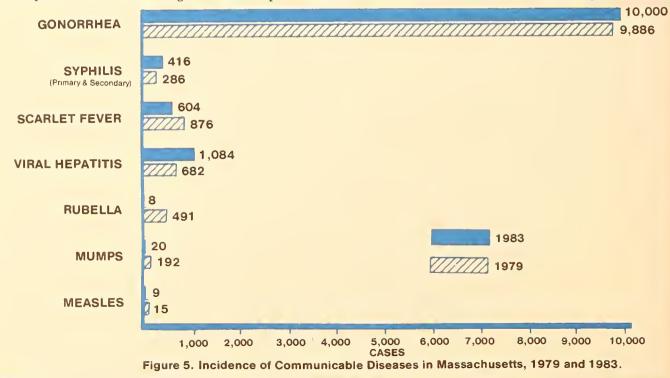
992 persons (78 percent) were examined. The number of persons prophylactically treated as contacts was 512.

The federal grant for venereal disease control was \$426,800 for 1983. Main emphasis was on the screening of asymptomatic women for gonorrhea, and the refinement of an effective initiative for gonococcal pelvic inflammatory disease (PID). During calendar year 1983, the program examined 114,000 women for gonorrhea at approximately 100 participating facilities. Of the 114,000 women examined, 4,000, or 3.5 percent, approximately the same percentage as in the previous year, were found to have the disease.

The Division continued its program for the diagnosis, treatment, and epidemiology of PID. Protocols with standards for the diagnosis of gonococcal PID, which had been established by the Division, continued in over 30 hospitals located in areas of highest incidence. Measures for ensuring the rapid epidemiologic follow-up of contacts, many of whom were asymptomatic men, were maintained. During calendar year 1983, the 375 reported cases of gonococcal PID represented an 8 percent decrease from 1982.

The incidence of penicillin-resistant gonorrhea decreased from 98 cases to 93 in calendar year 1983. The majority of cases continued to be linked to prostitutes and their contacts located in Boston and adjacent communities. Intensive epidemiologic measures have been applied to prevent the spread of such cases throughout the state.

The 18 cooperating venereal disease clinics in the outpatient departments of general hospitals had 39,336 patient visits for examination and treatment during the fiscal year.



MANAGEMENT SERVICES

Management Services consolidates the activities of the Division of Data Processing, the Budget Office, the Office of Employee Relations, the Fiscal Office, the Division of Central Services, and the Office of Human Resources. These Divisions provide centralized administrative support services to the Department.

DATA PROCESSING

The Division of Data Processing provides programming and data entry services to the Department's divisions and hospitals. It reviews all acquisitions of data processing services, equipment, and systems. The Division also coordinates the use of large-scale computer services, both at the Commonwealth's Bureau of Computer Services and at a private service bureau. Major projects in fiscal year 1984, which aim to increase efficiency and responsiveness, included:

•Transfer of 75 percent of the Department's private bureau processing to a Commonwealth data center.

•Assisting Divisions in the acquisition of seven microcomputers and in the development of default hardware and software standards.

•Assisting the Lemuel Shattuck Hospital in a complex evaluation of proposals for an automated billing system to be implemented in fiscal year 1985, to improve billing capabilities and thus increase state revenues.

•Conducting the first round of an automated data processing plan to identify the Department's present and future requirements for data processing and office automation, and evaluating alternate strategies now available for meeting these requirements.

BUDGET OFFICE

The Budget Office supervised the preparation, implementation, and monitoring of the Department's \$130 million state budget. In addition, it continued to oversee the work of the Contracts and Revenue Units.

EMPLOYEE RELATIONS

The Office of Employee Relations directed the collective bargaining program of the Department, held civil service hearings for Department employees, and represented the Commissioner before the Civil Service Commission.



The Department's new headquarters at 150 Tremont Street in downtown Boston.

FISCAL OFFICE

In addition to providing accounting services for \$175 million in state and federal funds, the Fiscal Office supervised the operations of the Payroll and Purchasing Units.

CENTRAL SERVICES

The Division of Central Services coordinated the move of most of the Department's employees from five downtown locations to its new headquarters at 150 Tremont Street. The Division continued to provide core services such as production, mailroom, and telecommunications to the programs within the Department.

HUMAN RESOURCES

The Office of Human Resources, formerly the Personnel Office, expanded its responsibilities to include not only the processing of personnel transactions but also employee benefits, recruiting and training, and affirmative action.

REGIONAL AND LOCAL HEALTH OPERATIONS

The Office of Local Health Services and Regional Operations, established late in fiscal year 1984, was designed to strengthen the role of the Department's four Regional Health Offices and to improve communications with local boards of health. It is also charged with coordinating long-range planning for the six Public Health Hospitals and with broadening hospital activities in the community.

REGIONAL HEALTH OFFICES

The four Regional Health Offices continued to coordinate the Department's general field activities and to act as intermediaries between central service programs, local health agencies, and citizen groups. As mandated by statute, the regional health officers act as representatives of the Commissioner of Public Health and are responsible for the implementation of the Department's programs and policies in their respective districts. The multifaceted activities and responsibilities of the regional offices can be summarized as follows:

- Technical assistance—for sanitary programs and consultations on communicable disease control, nursing, nutrition programs, childhood lead paint poisoning prevention, and other public health functions.
- Regulatory—enforcement of the state Sanitary Code and Food and Drug laws; inspection of prisons and certification of migrant labor and recreational camps.
- Direct patient services—provision of either direct services or contracted services with other medical agencies for programs of the Services to Handicapped Children, rehabilitation programs, family planning, and other programs of the Divisions of Family Health Services and Dental Health, and programs of the Center for Health Promotion and Environmental Disease Prevention.
- Inservice educational programs—for local boards of health, health care providers, voluntary organizations, and professional groups.

During fiscal year 1984, the Regional Health Offices worked to strengthen communication and cooperation with local boards of health and community groups, to organize new health promotion programs, and to plan and promote a greater sharing of regional resources. Examples include:

• Central Region—Staff carried out the following activities: housing inspections, 154; reinspections, 689; inspections of day care centers, 68; buildings deleaded, 181, a significant increase of 134 over the previous year. The addition of a part-time nurse to the Lead Paint Program has resulted in a more efficient follow-up of lead poisoned children—135 since January 1984. In addition, 172 children were screened in kindergartens in Gardner and at the Milford Day Care Center. Inservice programs were made available to community health agencies in Gardner, Worcester, Fitchburg and Leominster, as well as to the Family Practice Residency Program at the Burbank Hospital, and to the Worcester WIC

program. Approximately 13,500 school-age children, an increase of over 700 pupils, were receiving the benefits of the Fluoride Mouth-Rinse Program in 71 schools.

- •Northeastern Region—Regional office staff worked actively with the Northeastern Associated Boards of Health, which increased its membership to 165 health workers representing 51 of the 66 communities in the region. Staff were also active in the Massachusetts Environmental Health Association and the Massachusetts Health Officers Association. Through these contacts, local boards of health were kept well informed about issues of concern to the Department and worked cooperatively with the Regional Office. Programs of the Services to Handicapped Children were enlarged by a grant of \$14,500 through the Adaptive Housing Project to provide construction of modifications in the homes of handicapped children in the region. Fifty referrals were received and evaluations were being made to determine funding for individual homes.
- Southeastern Region—The Regional Health Office staff provided serums, vaccines, and other materials needed for immunization and disease control programs in many of the 105 communities in the area. Public health guidebooks and law books were made available to local boards of health. Field personnel such as public health nursing advisors, an epidemiologist, a sanitarian, tuberculosis control program personnel, lead paint program personnel, and staff members from the Division of Family Health Services carried out the Department's programs and were available for guidance and consultation with area residents.
- Western Region—Staff worked closely with other agencies in protecting the health of residents in western Massachusetts. Staff sampled numerous private wells for pesticide contamination under an agreement between the Department of Public Health and the Department of Environmental Quality Engineering. Regional staff also participated regularly in many interagency activities, including the Department of Education's Regional Review Board for Residential Needs (Chapter 766) School Programs, the Office for Children's Inter-Departmental Team, Springfield Area Planning Group, Franklin/Hampshire Area Planning Team, and the Western Massachusetts Regional Directors Group. The Quabbin Health District (Belchertown, Ware and Pelham), working closely with the Regional Office and the Department, completed its fourth and final year under a subsidy of \$6,000 from the Department.

HOSPITALS

Through the operation of its six public health hospitals, the Department has been able to supplement existing resources on a statewide basis. Although many services once provided only by these hospitals have been absorbed by the private sector, the hospitals continued to provide a broad

range of clinical services to meet the needs of their patients. In fiscal year 1984, programs stressed health promotion, as well as the prevention of the occurrence and progression of disease and disability.

The services and programs of the six public health hospitals are summarized below:

• Lakeville Hospital—Lakeville Hospital is a 100-bed, short- and long-term physical rehabilitation facility located in the southeastern region of the state. The hospital's drive to recruit active rehabilitative patients produced an inpatient admission increase of 14 percent over fiscal year 1983. Lakeville Hospital placed 10 chronic, long-term patients either in independent living situations or in an appropriate lower-level facility during fiscal year 1984. The Outpatient Department experienced a 14.3 percent increase in the number of patients seen and a 15.4 percent increase in services rendered over the previous fiscal year.

During the fiscal year, an outdoor recreational complex was constructed on the grounds of the hospital. Twenty-five acres of woodland were developed into picnic pavilions, nature trails, and a fishing pond with pier, all adapted for use by physically handicapped and disabled persons.

During fiscal year 1984, Lakeville Hospital received the highest accreditation status awarded by the Commission on Accreditation of Rehabilitation Facilities (CARF). Of particular interest to the CARF surveyors was the system of program evaluation of pediatric patients, which was developed by the hospital's Chief of Staff. Previously, no such evaluation system existed for ascertaining the special needs of long-term pediatric patients.

In August 1984, Lakeville Hospital completed and released, in chart form, a comprehensive listing of pediatric doses of emergency drugs. Twenty-six of the most commonly used emergency medications are listed in an easy-to-find, easy-to-read format. The chart has been distributed to hospitals throughout the Commonwealth, and has been circulated to other hospitals as a model.

•Lemuel Shattuck Hospital—Located in the Jamaica Plain section of Boston, the Lemuel Shattuck Hospital provides medical care to patients for whom community facilities are unavailable or inappropriate. In fiscal year 1984, the hospital began to implement the long-range strategic plan developed in the previous fiscal year, which recommended that the hospital increase its capacity to 325 beds to handle unmet needs in the community.

During the year, the Shattuck continued to provide high-quality health care to both inpatients and outpatients. Average patient census increased by 10 percent, and occupancy was the highest in 10 years. Plans to open the first of three new units were being put into effect. The Outpatient Department, which offers 23 specialty clinics, including dentistry, chronic care, pain and stress, psychiatry, and tuberculosis treatment, provided a total of 25,816 visits to community and state patients — an increase of 7 percent over the previous year.

The Homeless Shelter moved to a new location and has been operating at 100 beds since February. Renovations were underway to expand bathroom and dining facilities and to increase fire safety and security. The shelter has expanded and stabilized its operations, and its mission has been broadened to include organized medical and social services. Hospital staff also played a key role in planning a city-state proposal to



Lakeville Hospital's new recreational trail for the disabled.

provide medical services to the homeless under a grant from the Robert Wood Johnson Foundation and the Pew Memorial

Fiscal year 1984 was also a year of progress on long-term capital needs. Numerous mechanical and structural renovations have been completed, and improvements to the Bay Cove Mental Health Units were scheduled to begin in the summer of 1984. By the end of the fiscal year, construction began on a new, expanded intensive care unit, and plans were underway for an enlarged correctional medical facility.

•Massachusetts Hospital School —Located on 160 acres in Canton, the Massachusetts Hospital School is a unique facility that provides comprehensive medical, educational, and restorative services to physically handicapped but intellectually able children. The Hospital School continued to provide a wide range of clinical services — orthopedic, cardiology, cerebral palsy, Milwaukee brace, myelodysplasia — to both inpatients and outpatients from the surrounding communities. Staff worked to provide a warm, nurturing, and stimulating environment to encourage growth of the handicapped child into a well-adjusted adult. Each young patient, therefore, received highly individualized services.

During fiscal year 1984, the Hospital School provided services to 115 resident children, 18 day students, and over 750 families on an outpatient basis. Individualized plans for each patient and family were developed and implemented in a coordinated and cohesive manner. Specialized recreational therapy was fully incorporated into the program.

A pilot 10-day Respite Care Program, the Caring Circle, was begun in the spring of 1984, providing respite care for 30 physically disabled children and young adults.

Project EYE (Enabling Youth for Employment) was for mally inaugurated during the year. The project, which provided training through a supervised work experience, was sponsored jointly by the Hospital School and federal jot training programs.

The Massachusetts Hospital School graduated 10 students in June 1984. Of this number, three enrolled in higher education programs. Three of the graduates were living in Independent Living Centers in the state, and four were living at home. Seven were receiving vocational services from the Massachusetts Rehabilitation Commission.

The hospital's Orthopedic Residency Program was strengthened by the addition of Tufts University School of Medicine to the hospital's existing orthopedic affiliations with Carney Hospital and the University of Massachusetts Medical School.

•Rutland Heights Hospital—Located in the central Massachusetts community of Rutland, the Rutland Heights Hospital is a 245-bed facility that offers a wide range of regional and statewide specialty programs for adults. The hospital provides comprehensive inpatient and outpatient services, with special emphasis on the needs of the geriatric patient in physical rehabilitation, chronic care, adult day y care, or long-term care.

Noted for its expertise in the treatment of alcoholics, the Rutland Heights Hospital operates the state's only 14-day Residential Alcohol Treatment Program for second offense drunk drivers. Because of the Commonwealth's continuing interest in the problem of drunk driving and the visit of over 200 judges and probation officers to the hospital, the number of referrals to the program increased by over 400 percent from



Members of the Chariots, the Massachusetts Hospital School's hockey team, and Occupational and Physical Therapy staff in a pre-game photo.

928 in fiscal year 1983 to 4,472 in fiscal year 1984. To meet the demand for placement, the program expanded from 88

beds to its maximum capacity of 131 beds.

In June 1984, the hospital opened a four-bed Respite Care Unit, the only one in central Massachusetts. The program was designed to meet the needs of the many families caring for sick and disabled persons at home. Families were able to place such family members in the hospital for a period of up to 14 days.

•Tewksbury Hospital —Tewksbury Hospital in northeastern Massachusetts, with a bed capacity of 820, is the largest chronic disease, rehabilitation hospital in the state. It also operates a 225-bed program for homeless men. During fiscal year 1984, approximately 350 men were admitted into the program. All received complete physical examinations, a thorough admission interview, and counseling when deemed necessary.

The Physical Medicine Rehabilitation Committee continued to provide assessments and services to patients. All newly admirted patients were assessed by the committee and written recommendations made. Of a total of 188 patients who received assessments, 99 received the services of physical therapy, occupational therapy, recreational therapy, or speech therapy.

The hospital's School of Practical Nursing graduated 39 students in the Class of 1983. The hospital continued to cooperate with such programs as the clinical pastoral education program, independent living program, head start, and the day care center, which provides a service for working mothers from low-income families.

•Western Massachusetts Hospital -Located on 206 acres of land in Westfield in Hampshire County, the Western Massachusetts Hospital provides inpatient and outpatient services to both adults and children, offers day care services, and

operates a School for Practical Nurses.

During fiscal year 1984, the hospital provided hospice/palliative care for the terminally ill, chronic care for adults and children, adult and pediatric respite care, specialized care of comatose patients in the expanded Coma Unit, adult day care, and summer day care programs for handicapped children.

Major highlights of the fiscal year follow:

- Outpatient visits reached 10,755.
- Over \$1,063,000 of free care was provided.
- The Pediatric Summer Respite Care Program was filled to capacity; the Adult Respite Program experienced a significant increase for the second year.
- The hospital announced its decision to accept patients with AIDS for admission to the hospice/palliative unit.
- The School for Practical Nurses graduated 30 students in July 1983.
- The Legislature appropriated over \$3 million in capital improvements to hospital facilities.

During fiscal year 1984, the Department's six Public Health Hospitals admitted 4,013 patients, an increase of 5.5 percent over the previous year. The average length of stay varied from 24.7 days at the main section of the Lemuel Shattuck to 1,489.2 days at Tewksbury (Table 6).

The hospitals continued to expand training of physicians and paramedical personnel as part of the Department's total public health effort. Lemuel Shattuck, Tewksbury, and Western Massachusetts Hospitals graduated 105 practical nurses from their accredited schools of practical nursing, the largest number in several years. Many of the nurses continued to work at the hospitals.

Table 6. Public Health Hospitals Annual Census Summary - July 1, 1983 - June 30, 1984.

Hospitals	Admissions	Discharges	Days	Stay*	Census	Visits
Lakeville	379	389	28,886	162.2	79.7	11,424
Lemuel Shattuck						
Main	1,645	1,573	37,375	24.7	102.0	21,036
Medical Geriatric	52	53	16,783	583.6	45.8	39
Bay Cove	497	496	24,301	33.0	60.4	560
Mass. Hospital School	129	133	27,845	221.9	116.0**	1,664
Rutland Heights	379	370	36,303	90.5	99.0	
Tewksbury						
Main	277	98	260,616	1,489.2	711.8	_
Homeless Men	367	384	63,187	141.2	172.3	_
Western Mass.	288	144	24,535	125.8	80.0	9,546
Total	4,013	3,640	519,831	_	_	44,269

^{*}Stay represents number of days.

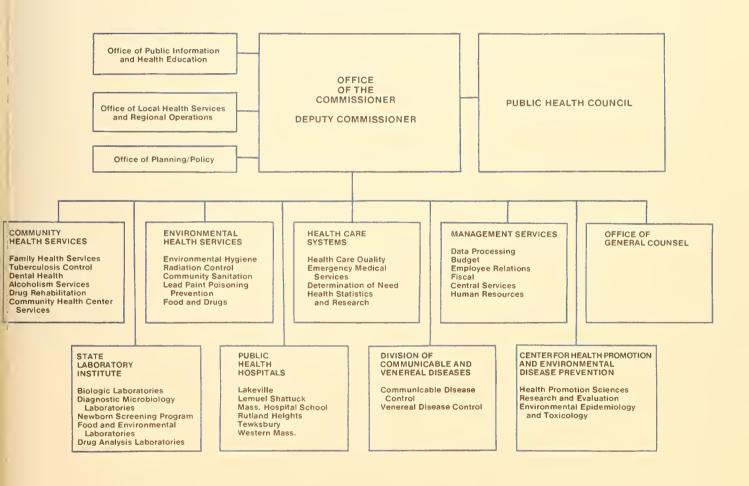
^{**} Average daily census at the Massachusetts Hospital School has been adjusted to reflect enrollment days

EXPENDITURE REPORT DEPARTMENT OF PUBLIC HEALTH JULY 1, 1983 - JUNE 30, 1984

	STATE	FEDERAL	TOTAL
COMMISSIONER'S OFFICE	880,991	_	880,991
MANAGEMENT SERVICES	2,807,949	_	2,807,949
LEGAL OFFICE	181,007		181,007
Sub-Total	3,869,947	_	3,869,947
COMMUNICABLE & VENEREAL DISEASES	3,900,368	308,245	4,208,613
Sub-Total	3,900,368	308,245	4,20 8,613
COMMUNITY HEALTH SERVICES			
Family Health Services	9,729,882	21,562,028	31,291,910
Preventive Medicine	739,543	693,719	1,433,262
Tuberculosis Control	2,436,973	95,242	2,532,215
Local Health	561,350	68,354	629,704
Dental Health	2,209,553	241,027	2,450,580
Community Health Centers	1,091,943	_	1,091,943
Alcoholism	19,751,017	4,042,825	23,793,842 2
Drug Rehabilitation	4,609,532	3,470,387	8,079,919
Sub-Total	41,129,793	30,173,582	71,303,375
ENVIRONMENTAL HEALTH			
Lead Poisoning Prevention	805,681	719,926	1,525,607
Radiation Control	269,532	_	269,532
Food and Drugs	1,246,585	_	1,246,585
Environmental Health Assessment	151,612	_	151,612
Community Sanitation	16,846	154,050	170,846
Sub-Total	2,490,256	873,976	3,364,232 !
HEALTH PLANNING & REGULATION			
Health Statistics & Research	1,199,187	54,361	1,253,548
Determination of Need	476,857		476,857
Emergency Medical Services	244,184	627,650	871,834
Health Care Quality	3,508,643	438,849	3,947,492
Sub-Total	5,428,871	1,120,860	6,549,731
STATE LABORATORIES	5,532,689	186,774	5,719,463
Sub-Total	62,351,924	32,663,437	95,015,361
HOSPITALS			
Lakeville Hospital	7,330,349	_	7,330,349
Lemuel Shattuck Hospital	18,181,026	_	18,181,026
Mass. Hospital School	6,785,610	_	6,785,610
Rutland Heights Hospital	6,827,844	_	6,827,844
Tewksbury Hospital	19,465,916	_	19,465,916
Western Mass. Hospital	5,576,709		5,576,709
Sub-Total	64,167,454	_	64,167,454
Total	\$126,519,377	\$32,663,437	\$159,182,814

EXECUTIVE OFFICE OF HUMAN SERVICES MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1984





The Commonwealth of Massachusetts
Michael S. Dukakis, Governor

Executive Office of Human Services
Philip W. Johnston, Secretary

Department of Public Health Bailus Walker, Jr., Commissioner

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-Massachusetts Department of Public Health-

Fostering A Healthy Society



lassachusetts Department of Public Health

1985 Annual Report

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Bailus Walker, Jr., Ph.D., M.P.H. Commissioner of Public Health Chairman, Public Health Council

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June 30, 1985

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Fostering A Healthy Society

Massachusetts Department of Public Health 1985 Annual Report

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From the Office of the Commissioner

With the issuing of this newly formatted Department of Public Health Annual Report for 1985, we wish to call particular attention to the breadth and depth of services provided by our many divisions, offices, and hospitals, services that reflect the Department's basic legislative mandate—"To maintain, protect and improve the health and well-being of the people."

Although first formulated in 1869, this mandate remains unchanged, underscoring the Department's approach to solving the problems that have arisen in this, the last decade and a half of the 20th Century. Reiterating the belief that sound health is a right of all people and that the delivery of health care operates within the confines of the social and economic factors that affect their lives, the Department established a list of public health priorities and objectives to improve the health and safety of Massachusetts residents, as well as to control the spiraling cost of health care in the state. During the fiscal year that ended June 30, 1985, the Department made substantial progress in carrying out its objectives.

This progress is exemplified by the many accomplishments in five general categories:

• Fostering a Healthy Society

During the fiscal year, the Department improved on a number of activities to meet the needs of Massachusetts residents. Services to enhance the health of the family, to help prepare adolescents for a healthy adulthood, to prevent addictive diseases, to prevent dental disease, and to support public health activities in local communities, were provided comprehensively and to ensure access to persons in need.

Protecting the Individual

Integral to the prevention of disease is the two-pronged approach to changing people's lifestyles and reducing the risk of physical, chemical, and biological agents in the environment. During the last fiscal year, the Department's Center for Health Promotion and Environmental Disease Prevention and the Bureau of Environmental Health Services were successful in increasing comprehensive high blood pressure detection and follow-up, enhancing public information efforts on the serious health effects of lead poisoning, and

beginning to meet its responsibilities under the provisions of the Massachusetts Right-to-Know Law.

• Enhancing Patient Services and Health Care Cost Containment

In fiscal year 1985, the Division of Health Care Quality, the Determination of Need Program, and the Department's seven public health hospitals made significant strides in carrying out activities to ensure high quality, cost controlled services, such as, the issuing of licenses to the first two birthing centers in the state, and the establishment of a toll-free patient abuse reporting hotline and of an organ transplantation policy.

• Controlling Communicable Diseases

To strengthen the Department's programs in the control of communicable diseases, the Divisions of Communicable Diseases and Tuberculosis Control and the State Laboratory Institute were consolidated in the last fiscal year into a new Center for Laboratories and Communicable Disease Control. Among its successful efforts were the coordination of needed counseling and testing services for persons with Acquired Immune Deficiency Syndrome (AIDS), and the assurance of adequate immunization services.

Providing Support Services

The support and coordination of the Department's services are essential to the effective operation of our many programs. To this end, the Department developed specific activities that helped to produce new regulations, analyze the relationship of occupation to cancer and birth outcomes, and implement four, new statewide public education campaigns.

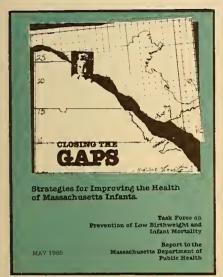
These activities are reflective in small part of the Department's overall programs and services in fiscal year 1985 to reduce the risks of disease and disability in the Commonwealth. None of this could have happened without the Governor's support of public health activities. In addition, the Massachusetts Legislature and the Executive Office of Human Services have been instrumental in furthering our efforts. Our accomplishments also represent the work of many agencies, organizations, groups, and individuals who have helped us to make health care accessible to the people of Massachusetts. To all of you, our sincere thanks.

Bailus Walker, Jr., Ph.D., M.P.H.

Fostering a Healthy Society

As we rapidly draw near the 21st Century, the complexities of life demand a comprehensive approach to the provision of health care throughout the Commonwealth. Such an approach requires an integrated effort between all the divisions of the Department, involving combined resources, programs, and personnel.

-Highlights



A Task Force on the Prevention of Low Birthweight and Infant Mortality issued a sobering report in May. By the end of the fiscal year, Department staff were beginning to implement the task force's recommendations for "closing the gaps" found in the study.



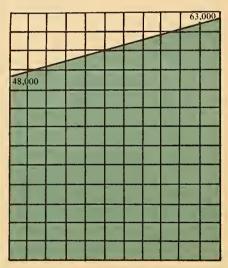
The Division of Drug Rehabilitation completed a statewide survey on drug and alcohol use among junior and senior high school students in Massachusetts. The results were used by the Governor's Alliance Against Drugs in its efforts.

PREGNANCY & ALCOHOL DON'T MIX!

If you are pregnant or are planning to become pregnant, see your physician or visit a prenatal clinic. Also, stop by your nearest Massachusetts, CVS/Pharmacy for a free pamphlet presenting scientific facts about drinking alcoholic beverages during your pregnancy and the possible dangers to your unborn child

Available At Our Prescription Counter

The Division of Alcoholism collaborated with local CVS drug stores in a statewide public awareness campaign on Fetal Alcohol Syndrome, and established two new bilingual, bicultural halfway houses.



Participation in the Women, Infants and Children (WIC)

Program rose from 48,000 to 63,000 women, infants, and children.



The Department promulgated a regulation - the first in the nation - requiring a health hazard warning label on containers of snuff sold in the Commonwealth as of February 1, 1986.

Services to Enhance the Health of the Family

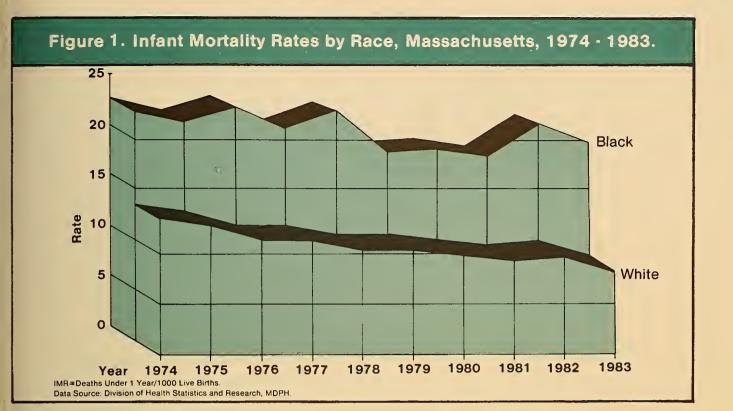
An important aspect of the Department's efforts to foster a healthy society in the past year centered on improved services to mothers and children. Through the Division of Family Health Services, the Department carried out diverse programs to reduce infant and maternal mortality, promote maternal and child health, evaluate and treat handicapped children, and serve women who are victims of abuse and violence.

- The Maternal and Infant Care (MIC) Prenatal Projects reached 4,000 high-risk, low-income pregnant women in 19 high-risk areas of the state with medical care, social services, nutrition counseling, health education, family planning, and other preventive services
- Under the Federal Special Supplemental Food Program for Women, Infants and Children (WIC), the number of women, infants, and children under the age of five who received supplemental nutritious food, nutrition counseling and health care referrals rose from 48,000 to 63,000. In addition, WIC encouraged the development of a Breastfeeding Promotion Project, to increase both the number of WIC participants who choose to breastfeed and the duration of breastfeeding. The special Southeast Asian Refugee Project served over 2,500 Southeast Asians throughout the state. To aid this group more effectively, WIC trained 12 Southeast Asians to work in 14 local WIC programs, not only as interpreters but also as nutrition assistants.
- The Children and Youth Projects, an important element of the Division's efforts to help children become healthy, productive adults, offered primary care to over 45,000 preschool and school age children up to age 21 in low income, high-need areas of the state. Over 200,000 school children were screened by the Division for postural defects, and more than 900 were certified for psychotropic drug use.
- The High-Risk Infant Identification Program became fully operational in fiscal year 1985 and identified over 4,000 infants born with low birthweight, congenital anomalies, or other high-risk conditions. Nearly 12,000 high-risk infants and members of their families received community-based support, education, counseling, and referral services.

- The Sudden Infant Death Syndrome (SIDS)

 Program provided 24-hour, on-call, medical and nursing counseling services statewide to approximately 100 families who had lost a child to this mysterious syndrome. The program also paid for autopsy of the infant, and developed educational and training programs for health professionals.
- All Neonatal Intensive Care Units in the state received support from the Division of Family Health Services to ensure discharge planning and follow-up with community hospitals and service providers. Over 1,500 infants and their families received community-based support services, primarily through home visits.
- The report of a 19-member Task Force on the Prevention of Low Birthweight and Infant Mortality, appointed by Commissioner Walker, revealed gaps not only in rates of low birthweight, newborn and infant deaths by race, ethnicity, and low income level, but also in the percentages of women receiving adequate prenatal and postnatal comprehensive medical care (Fig. 1). By the end of the fiscal year, the task force's recommendations were being readied for implementation:
 - All current programs described above to receive additional funds to reach greater numbers of women and children throughout the state.
 - The promotion of public/private coalitions at the local and regional levels to discuss the needs and problems of communities at high risk of low birthweight, infant mortality, teen births, and inadequate or lack of prenatal care.
 - A media and outreach campaign to educate consumers and providers on the factors promoting healthy birth outcomes, the importance of prenatal care, and ways to obtain care and payment for it.
 - A committee of representatives from professional organizations to develop comprehensive prenatal care standards for statewide implementation.
 - Healthy Start, subcontracted from the Department of Public Welfare, established as a payer of last resort program for pregnant women who are ineligible for Medicaid, lack health insurance coverage for maternity care, and who have incomes below 185 percent of the federal poverty level. The program will cover prenatal, delivery, and postpartum care.





- The Statewide Childhood Injury Prevention Program (SCIPP) received a \$750,000 three-year grant from the federal Maternal and Child Health Special Projects of Regional and National Significance to reduce injuries among children and adolescents in the Commonwealth. During fiscal year 1985, SCIPP began to transform its project from a research and demonstration activity into an established statewide program for the reduction of childhood injuries. Two injury prevention modules, on home injury prevention and preschool health, were pilot-tested, and needs assessments were initiated for the primary care and elementary school modules. During the year, SCIPP also worked with the Massachusetts Poison Control System and the Massachusetts Passenger Safety Program on public education and information efforts.
- The Pregnancy/Environmental Hotline, a statewide, toll-free number, gave information to over 1,000 callers on the effects of hazardous substances on the health of pregnant women and their unborn children.
- The Services to Handicapped Children's (SHC) Section of the Division of Family Health Services worked to maximize the healthy growth and development of disabled children, and to keep them at home or in the community whenever possible. In all, nearly 10,000 children from birth through age 21 were served through the Division's three units: the Early Childhood Development Services Unit, which supported 43 early intervention providers throughout the state; the Community Services Unit, which served over 500 children in home health care, pediatric nursing homes, and camp programs; and the Clinical Services Unit, a statewide system of specialized clinics for children with handicapping conditions and chronic diseases.

- In the last fiscal year, the Women's Health Unit of the Division of Family Health Services expanded to provide numerous and varied services and educational programs designed to reduce morbidity and mortality among women, and to strengthen an understanding of the special health concerns of women within their social, occupational, and reproductive roles. Among these were:
 - The Women's Health and Learning Center, a comprehensive program for incarcerated women, which increased its services to include 800 women inmates in Massachusetts.



- An informational and educational program on the health effects of diethylstilbestrol (DES). More than 100 offspring of women who had been exposed to DES during pregnancy received a diagnostic evaluation at Department-supported medical centers across the state.
- An Office Technology Education Project, which developed educational programs for office workers on hazards in the workplace.
- A Resource Center for the Prevention of Family Violence and Sexual Abuse, established to consolidate educational materials and collect data on the incidence and ramifications of family violence and sexual abuse in the state.
- Rape Prevention and Victim Services, which provided crisis counseling, advocacy, and follow-up for 3,000 victims of rape or sexual abuse in 13 programs across the state.

Services to Help Prepare Adolescents for a Healthy Adulthood

To help prepare adolescents for a healthy, productive adulthood, the Department offers multidisciplinary services across the state. Programs aim to educate adolescents about good health practices, prevent teenage pregnancies, provide better prenatal and follow-up care to teenagers who become pregnant, and prevent alcohol and drug abuse (Table 1).

- Pregnant and Parenting Adolescent Programs, which are contracted by the Division of Family Health Services, maintained health care, education, and counseling services for approximately 4,000 teenagers.
- Six comprehensive health programs made available medical services, individual and group counseling, education and referral to more than 15,000 adolescents, parents, and community leaders.

Table 1.
Services Delivered by
Adolescent Health Programs, 1985.

Service	CAHP* (6 programs)	PPP**	Total
	(o programs)	(> programs	,
1. Clinic vísíts†	28,556	10,908	39,464
2. Medical examinations	12,485	12,439	24,924
3. Counseling sessions	7,767	11,392	19,159
4. Pregnancy tests	2,276	1,871	4,147
5. Family planning visits	8,499	5,146	13,645
6. Home visits	_	11,253	11,253

- *CAHP = Comprehensive Adolescent Health Programs.
- **PPP = Pregnant and Parenting Programs.
- +"Clinic visits" represent single, unduplicated visits, Source: Division of Family Health Services.



Counseling session, adolescent health programs.

Services to Prevent Addictive Diseases

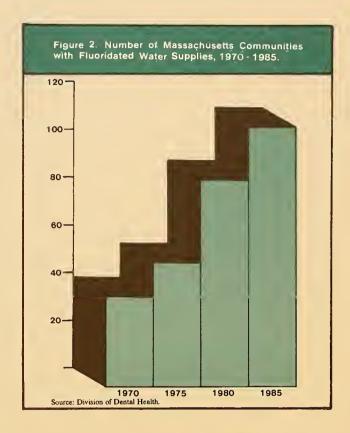
The Department supports services throughout the state that seek to prevent alcohol and drug abuse and treat drug dependencies when they occur. In fiscal year 1985, the Divisions of Alcoholism and Drug Rehabilitation strengthened existing programs and developed joint projects to deal more effectively with the growing problem of drug abuse and addiction.

- The Division of Alcoholism administered a purchase of service system that totaled approximately \$28 million in fiscal year 1985, and developed new and alternative programs during the year. Included were:
 - A public awareness program on Fetal Alcohol Syndrome. The Division issued an informational brochure, and launched a campaign with Consumer Value Stores (CVS) to distribute the brochure through the 111 CVS pharmacies across the state and make available to the public audio cassette tapes explaining the effects of alcohol consumption during pregnancy.
 - In collaboration with the Department of Public Welfare, a 30-bed Public Inebriate Program Shelter for men and women in Lawrence.
 - A Short-Term Alcohol and Referral Project in Boston to help meet the needs of chronic recidivists.
 - Two new bilingual, bicultural halfway houses, one in Springfield and one in Boston, to meet the needs of the Hispanic community in the state.

- An innovative Driver Education Program to serve drivers sentenced for drunk driving by the Quincy City Court.
- The new 14-day Driving Under the Influence (DUI) Programs, at the Department's Lakeville and Tewksbury Hospitals and at the Middlesex County Hospital. The addition of 180 beds significantly reduced waiting time for admission.
- Tertiary Prevention Programs that included 51 halfway houses, 20 detoxification centers, 46 outpatient programs, and 3 public inebriate programs.
- The Division of Drug Rehabilitation continued its work to alleviate drug use and abuse in Massachusetts through a network of prevention and treatment services. In fiscal year 1985, the Division maintained five categories of basic treatment that served 10,917 clients. These included: residential detoxification services, outpatient methadone maintenance, residential drug-free treatment scrvices, and outpatient drug-free counseling services. In addition, the Division's 62 prevention programs designed to help persons at risk offered a wide range of services—prevention education, community prevention programs, and intervention programs.

During the fiscal year, the Division developed several new initiatives:

- Vocational education, and substance abuse treatment for prison populations, serving 688 clients.
- Five new juvenile court diversion programs to aid young people through short-term counseling sessions, thus preventing habitual drug use.
- A statewide survey on drug and alcohol use among junior and senior high school students. The study indicated that drug and alcohol use was widespread in the ninth through twelfth grades. The report aided the Governor's Alliance Against Drugs to mobilize and coordinate the efforts of public and private agencies, and parent and student groups to develop strategies for confronting and reducing drug and alcohol use and abuse by school-aged children.
- The Divisions of Alcoholism and Drug
 Rehabilitation also cooperated to establish six residential
 treatment programs for youths 14 to 19 years of age who
 become seriously involved with drugs, and eight
 Residential Primary Prevention Centers across the
 Commonwealth. Working in collaboration with the
 Massachusetts Parole Board, the two Divisions initiated
 a pilot project for inmates being paroled from
 southeastern Massachusetts correctional institutions. The
 project seeks to identify alcohol and drug-abusing
 inmates and refer paroled persons to appropriate
 alcoholism and drug agencies.



Services to Prevent Dental Disease

To prevent dental disease in the Commonwealth, the Department, through its Division of Dental Health, supports fluoridation of public water supplies, carries out public education on good dental health practices, and provides dental care for wards of the state.

- Prevention of Oral Disease—As a result of state and local public education programs, 2.4 million people have been receiving fluoridated water since 1979. By the end of fiscal year 1985, 55 percent of the state's public water supplies were fluoridated, as compared to only 8 percent in 1969 (Fig. 2).
 - Enrollment in the school-based Fluoride

 Mouthrinse Program increased by 30 percent to
 bring the total number of children to 78,000 and the
 number of participating communities to 150. It is
 estimated that the program prevents 50,000 teeth
 from decaying and saves \$900,000 in dental bills.



Participant in sealant program.

- An additional \$139,000 was expended during the fiscal year to promote the use of dental sealants for prevention of tooth decay among children.

 Approximately 6,500 children from 23 sites, including local health centers and schools, received the benefits of sealants.
- The Division's report on the health effects of smokeless tobacco documented cases of oral cancer, tooth loss, and abrasion. After public hearings in February, the Department promulgated a regulation—first in the nation—requiring a health hazard warning label on containers of snuff sold in the Commonwealth (effective February 1, 1986). The Department also proposed legislation that would place smokeless tobacco products under the state's tobacco tax, and supported raising the legal age for distribution from 16 to 18.
- Dental Care—To meet the needs of publicly supported groups outside the main stream of health services, the Division maintained support of seven clinics located at state schools, regional clinics located at sites operated by the state Department of Youth Services, and a clinic for the homeless at the Shattuck Hospital.



Pupil receiving dental sealants.

Services to Support Public Health Activities in Local Communities

Recognizing the importance of supporting regional and local public health efforts and activities, the Department strengthened its ties with community providers, local boards of health, and other agencies and organizations. To this end, new and ongoing initiatives included:

- The Office of Emergency Medical Services (OEMS), which is responsible for ensuring prompt and effective delivery of emergency medical care, continued its efforts to prevent cardiac disease, traumatic injury, and other medical emergencies. Programs to upgrade resources and to broaden local and state networks of emergency medical services functioned throughout the year. These included:
 - Administrative coordination and approval of all basic emergency medical technician (EMT) courses in the state. In fiscal year 1985, there were approximately 8,000 EMTs in the Commonwealth.
 - Advanced Life Support Services providing sophisticated treatment to victims at the scene of



Youngster receiving hearing test from Western Massachusetts Hospital audiologist.

accident or illness to 27 percent of the state's population.

- A comprehensive program on pediatric emergencies, which trained more than 140 emergency departments, and a Critical Care Emergency Departments' Nurse Education Program, which trained 115 nurses, bringing the total number of such nurses to more than 700.
- As part of the Department's overall effort to make medical care available and accessible to all sections of the population, the Department again supported 37 community health centers. These centers, which in the past fiscal year had more than 165,000 visits statewide, offered dental, obstetrical, gynecological, pediatric, adolescent, primary care and social services.
- The Office of Local Health Services and Regional Operations, which was established to help strengthen ties with regional and local health providers, became fully operational in fiscal year 1985. Through its four Regional Health Offices, a variety of programs were developed or coordinated for local boards of health and other health agencies. Major activities included training, information, advocacy, policy development and assessment, consultation and communications. In addition, the four

offices served as the regional base for a number of the Department's centrally administered programs, such as, services to handicapped children, lead poisoning prevention, dental health, and enforcement of food and drug laws.

Among the highlights of the activities of the Regional Health Offices during the fiscal year were:

- Participation in the formation of a Worcester Housing Court and development of a course in Community Health Nursing at Worcester State College (Central Regional Health Office).
- Review of the health service needs in Lawrence and participation in housing enforcement activities in Lowell (Northeastern Regional Health Office).
- Participation in the Southeastern Massachusetts
 Cervical Cancer Workgroup, to provide information
 and health education on cervical cancer, and serving
 on the Mayor of Brockton's Task Force on Health
 and Human Services (Southeastern Regional Health
 Office).
- Assisting in the formation of the Eastern Franklin County Health District and participation in several interagency efforts to meet local human services needs (Western Regional Health Office).

Protecting the Individual

Protecting the health of the approximately 6,000,000 citizens of the Commonwealth remains the major focus of the Department of Public Health's activities. How this can best be achieved has received serious consideration from all divisions, units, and programs. Changing people's lifestyles to reduce the incidence of heart disease, cancer, and stroke is but one aspect of a multifaceted approach to the problem, and basic to all prevention efforts. The Department's responses to the concerns of the people include efforts to reduce the risk of physical, chemical, and biological agents in the environment, and are carried out by the Center for Health Promotion and Environmental Disease Prevention, and the Bureau of Environmental Health Services.

-Highlights



The Department began to meet its responsibilities under the provisions of the Massachusetts Rightto-Know Law.



Twelve community programs provided comprehensive high blood pressure detection and follow-up care to approximately 13,500 residents of the Commonwealth, an increase of 35 percent over the previous year.



The Department issued the state's first regulations that permit physician assistants and nurse practioners to prescribe medicines for chronically ill patients.



Lead Poisoning Prevention Week, which was held in June by proclamation of Governor Dukakis, began a year-long campaign to inform the public of the serious health effects of lead poisoning.

Services to Promote Health and Prevent Disease

In fiscal year 1985, the Center for Health Promotion and Environmental Disease Prevention began implementation of a comprehensive program to reduce the lifestyle risk factors for heart disease, cancer, and stroke. At the same time, the Center responded to community concerns about elevated cancer rates and possible links between these rates and environmental toxic exposures. These activities were carried out through two Divisions: Health Promotion Sciences and Environmental Epidemiology and Toxicology.

- The Division of Health Promotion Sciences provided high blood pressure screening programs, coordinated physical fitness programs, sponsored smoking prevention activities, and operated a nutritional hotline and information service:
 - Twelve community programs provided comprehensive high blood pressure detection and follow-up care to approximately 13,500 residents of the Commonwealth, an increase of 35 percent over the previous year. The screening programs also supplied participants with educational materials on the other major lifestyle risk factors for heart disease, cancer, and stroke smoking, physical inactivity, and poor nutritional habits. The Hypertension Training and Education Center,

- funded by the Center, offered professional education to approximately 600 health care professionals through five regional conferences held in May.
- The LifeStyle Program, a worksite health promotion service, expanded to include state employees in 20 agencies in downtown Boston. During the year, the LifeStyle staff administered 181 health assessments to establish a baseline for future activities. Other programs included educational presentations, counseling, and exercise classes.
- The Resource Center for Firefighter Fitness at Bridgewater and Amherst, which served firefighters and other public safety employees from 15 communities, again received support from the Center. The programs demonstrated that incorporating a fitness program into one's lifestyle can increase the efficiency of cardiovascular fitness.
- In cooperation with the Governor's Committee on Physical Fitness and Sports, the Center sponsored the first annual "Fitness Day on the Hill."

 Legislators and their aides who participated in the free fitness testing received a thorough health screening, including cardiovascular risk factor analysis and aerobic fitness, body composition, flexibility and muscular endurance tests.

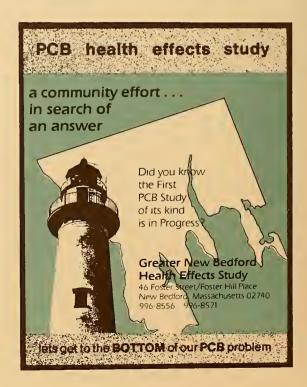
 Participants received a summary and interpretation of their test results, as well as recommendations for improved fitness.



Governor Dukakis participating in Fitness Day on the Hill.

- Responding to the problem of increasing incidence of lung cancer in Massachusetts, the Department intensified its educational activities on the dangers of smoking. During January 1985, which had been designated "Nonsmokers Awareness Month" by the Governor, the Department carried on a joint campaign with the Massachusetts Hospital Association to educate nonsmokers about the health effects of exposure to tobacco smoke and how to protect themselves from second-hand smoke. The Department distributed 50,000 copies of a brochure entitled, "Are You Really a Nonsmoker?", which provided information on the effects of tobacco smoke on nonsmokers and practical advice on what they can do to protect themsleves from second-hand smoke.
- The Center collaborated with the American Lung Association of Massachusetts in the publication of a new edition of the Nonsmokers' Guide to Massachusetts. The 1985 Guide included an updated listing of health facilities, insurance companies, and restaurants that have voluntarily instituted policies to promote the health and wellbeing of nonsmokers.
- Four state colleges, with resources provided by the Department, offered graduate level courses to approximately 100 teachers and allied school personnel on the prevention of smoking and drug abuse. The Department of Education's Commonwealth Inservice Institute received support to establish 11 inservice training programs for approximately 220 teachers and allied school personnel. In addition, the Department of Public Health supported the training of 25 health educators in Boston's middle schools.
- Many epidemiologic and intervention studies in this country and abroad have stressed the relationship of diet to such diseases as coronary heart disease and cancer. Responding to a heightened consumer awareness and concern, the Massachusetts Nutrition Resource Center (MNRC) continued to offer consumers and health professionals expert nutrition advice and information through a statewide, toll-free, nutrition hotline and mail request service. MNRC staff answered over 10,000 requests for information on sodium in the diet, fiber, calcium needs of adults, fat and cholesterol. The Massachusetts Nutrition Resource Center is a joint program of the Department and the Frances Stern Nutrition Center of Tufts University.
- The Division of Environmental Epidemiology and Toxicology provided services designed to identify the determinants of disease in order to prevent or reduce the future incidence of such diseases as leukemia, cancer of the kidney, pancreatic cancer and birth defects. Services included a number of studies to help identify communities for which disease prevention resources can be targeted, as well as technical assistance to agencies and groups:
 - The Division began a study of elevated rates for kidney cancer in the Merrimack Valley to determine whether the many years of manufacturing in the area may have increased the population's risk of kidney cancer. Other investigations caried out in 20

- communities in the state found no elevation of cancer rates.
- The Greater New Bedford Polychlorinated Biphenyls (PCB) study began full field operations in May 1985 to determine the exposure of 1,400 adults in the Greater New Bedford area to PCBs and possible health effects.
- Collaborating with the Boston Department of Health and Hospitals, staff conducted an analysis of the causes of death in 15 neighborhoods in Boston from 1979-1982, concentrating on the three leading causes of death. Planning for risk factor reduction programs in neighborhoods identified as high risk was underway by the end of the fiscal year.
- Responding to the growing number of citizen inquiries about pollutants in the environment and food chain, the Division carried out assessments of the health risks to the public from exposure to toxic substances in the air and in water, food, and consumer products. Staff provided technical assistance to state agencies and committees established to assess the effects of environmental pollutants on the health of the people. Division staff also provided guidance on the health risks of pesticides being considered for registration by the Massachusetts Pesticide Board Subcommittee. After intensive review of the literature by unit staff, the subcommittee banned the use of chlordane, a pesticide used for termite control, and amitrole, a herbicide.
- In response to a continuing elevation of childhood leukemia cases in Woburn, the Center convened a two-day meeting of scientific experts from around the country to review all existing health and environmental data from Woburn, and the possible relation of the cases to the dumping of toxic waste. By the end of the fiscal year, staff were preparing recommendations for follow-up activities.





Food and Drug Inspector checking freshness of milk.

Services to Ensure a Healthy Environment

In fiscal year 1985, the Bureau of Environmental Health Services, which includes four divisions, continued its work of identifying and evaluating environmental hazards to human health and developing corrective measures to reduce such risks.

- The Division of Food and Drugs again functioned as the principal consumer-protection agency of state government in the areas of the safety of food, drugs, and other consumer products. During fiscal year 1985, the Division maintained several projects to ensure a safe and wholesome food supply for Massachusetts consumers:
 - Shellfish sampling and enforcement actions were conducted in cooperation with the Division of Law Enforcement of the state Department of Fisheries, Wildlife, and Recreational Vehicles to prevent diseases related to contaminated shellfish.
 - To prevent illness due to contaminated milk, a comprehensive inspection and sampling program in the milk industry was strictly enforced
 - Food salvage and reconditioning operations for food and consumer products were closely watched by the Division to determine the suitability of these products for use by consumers.
 - The drug control unit investigated reports of drug losses or tamperings in nursing homes and hospitals, and brought formal charges against 19 persons for drug diversions. Such activities helped reduce costs of care and prevented the drugs from entering the illicit market.

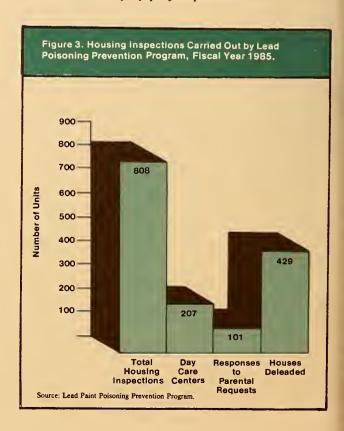
- To determine compliance with state standards for ethylene dibromide (EDB), a cancer-causing agent, inspectors from the Division continued to monitor food products. Where levels exceeded the established standards, inspectors removed the products from the state's food supply.
- The Division developed several new initiatives to promote the health of the consumer and to reduce health care costs in the Commonwealth:
 - In April 1985, the Department issued the first regulations that permit physician assistants and nurse practitioners to prescribe medicines for chronically ill patients. Through the new registration program, the Department has created a pool of qualified, specially trained health professionals to provide care for a number of groups who had been underserved in the past patients in nursing homes, patients in state institutions, people in homeless shelters, and the chronically ill who are cared for at home but who may have to be placed in health facilities if adequate home care is not available.
 - In a complementary move, the Department had earlier expanded the state's generic drug list, the Massachusetts List of Interchangeable Drugs, to include an additional 52 brand-name prescription drug products, and 126 new product strengths and dosage forms. These additions brought the number of interchangeable drug products in the state to more than 9,300, thus greatly reducing the cost of health care to consumers. It was estimated that the Massachusetts Medicaid Program would realize a savings of over \$2.5 million through the use of generic drugs in calendar year 1984. The list was mailed to approximately 30,000 pharmacists and physicians registered in Massachusetts.
 - New regulations requiring the licensure of all institutions that use dogs or cats for research or teaching were developed with the assistance of an advisory committee, and promulgated by the Public Health Council. The regulations ensure that dogs and cats used for research and teaching are handled and treated humanely. The Massachusetts Society for the Prevention of Cruelty to Animals and the Animal Rescue League of Boston were named by the Commissioner as official designees of the Department of Public Health to inspect institutions licensed under the new law.
 - Responding to public concern over residual levels of polychlorinated biphenyls (PCBs) in the food supply, the Division, in conjunction with the Center for Health Promotion and Environmental Disease Prevention, prepared an issue paper and proposed a PCB tolerance level of 2ppm, a level consistent with that of the FDA. The lowered tolerance level will aid consumers in determining what foods to purchase and what foods (especially certain species of fish) to avoid.



Nurse from Childhood Lead Poisoning Prevention Program screening for blood lead levels.

- The Childhood Lead Poisoning Prevention Program (CLPPP) continued its work to reduce the exposure of children under the age of six years to the hazards of lead poisoning. The Division provided screening for children who are at risk, distributed screening samples to health care providers, identified and worked to eliminate lead hazards in the environment, and conducted educational programs for both the medical and lay community on the health hazards of lead. During fiscal year 1985:
 - Approximately 142,000 children, 38 percent of all children between the ages of six months and five years, were screened for lead poisoning, and 1,531 children, or 1 percent, were identified as lead poisoned. Laboratory staff analyzed 13,350 blood specimens, a 10 percent increase over the previous year, and 3,100 nonblood specimens for lead content. All lead poisoned children received coordinated medical and environmental follow-up.
 - Division environmental inspectors made approximately 810 initial housing inspections during fiscal year 1985 (Fig. 3), to reduce risk of housing-related illness and injury. The Division also organized three conferences for lead inspectors and deleaders, and extended training and technical assistance to local boards of health and to workers in the private sector.
 - An important new program was begun in January 1985, when the Division began to offer crisis intervention deleading services through contracts with qualified deleaders throughout the state. The program seeks to provide safe, rapid, and thorough deleading services to eligible property owners and landlords in cases involving a seriously poisoned child in an effort to prevent further exposure.
 - Lead Poisoning Prevention Week, which was held in June by proclamation of the Governor, opened a year-long campaign to inform the public of the serious health effects of lead poisoning. New educational materials that highlighted the role of dust and soil as important sources of lead were developed and widely distributed.

• The Division supervised the activities of nine lead poisoning prevention projects funded through the Maternal and Child Health Services Block Grant. Projects in Boston, Lawrence, Worcester, and New Bedford offered screening, case management, inspection and enforcement services. Projects in Salem and Springfield provided screening and case management, and two projects conducted screening in Holyoke and in high-risk cities in central Massachusetts. More than 16,000 children in high-risk areas, the largest annual total to date, were screened directly by project personnel.



- The Division of Community Sanitation assumed responsibility for three new programs in fiscal year 1985: Environmental Hygiene, the Right-to-Know Program, and the Urea Formaldehyde Foam Insulation (UFF1) Repurchase Program:
 - Staff of the Environmental Hygiene Program
 worked with housing officials in the City of Lowell
 on compliance with sections of the State Sanitary
 Code that relate to housing. Simalar training
 programs were held in Fall River, New Bedford,
 Salem, Haverhill and Boston.
 - During the year, staff of the Environmental Hygiene Program also maintained its inspection of various facilities throughout the state (Table 2). Visits resulted in the improvement of environmental sanitary conditions in recreational and farm labor camps. Inspection of housing units resulted in the correction of a large number of violations, thereby reducing the potential for disease and injury to the occupants. Conditions in correctional facilities have improved considerably since the initiation of a routine, comprehensive inspection program by the Department. Cooperating with the Division of Dental Health's Fluoridation Program, staff sanitarians performed quarterly inspections of fluoridation equipment in communities with fluoridated public water supplies.
 - Under the provisions of the Massachusetts Right-to-Know Law, the Department has begun to meet its responsibilities including: establishment and annual amendment of the Massachusetts Substance List (MSL), a compilation of 1,600 substances which may be dangerous to workers' health or safety if improperly stored, used or handled; review and

Table 2.
Summary of Activities
Environmental Hygiene
July 1, 1984 - June 30, 1985.

Facilities	Activities
Housing	433 Initial inspections
J	59 Reinspections
	12 Assumptions of jurisdiction
Correctional	
Facilities	24 State facility inspections
	25 County facility inspections
	33 DYS facility inspections*
Lock-ups	178 Inspections
Recreational	
Camps	42 Inspections
Fluoridation Site	s 292 visits
Farm Labor Can	nps 62 camp certifications

(573 workers)

*DYS = Division of Youth Services

final determination of trade secret and research laboratory exemption applications (during the fiscal year, the Department received 47 trade secret exemption applications, representing 524 substances, and 175 applications from 301 research laboratories); ensuring the release of trade secret information on a confidential basis to medical and physician-supervised nonmedical personnel; and dissemination of information on the health effects of toxic or hazardous substances to the public and private sectors. Training seminars were held for staff in the Boston and regional health offices, and 21 such seminars were conducted for industrial and commercial groups throughout the state.

- To reduce family exposure to the concentrations of formaldehyde present in homes where urea formaldehyde foam had been used as an insulating material, the Department promulgated new repurchase regulations. Under these regulations, any person in whose home UFF1 was installed can request the installer, distributor or manufacturer to pay for the removal of the foam. During the fiscal year, 1,582 requests were received. Although no levels of safety had been established, the presence of any formaldehyde was deemed to produce unnecessary health risks.
- The Radiation Control Program maintained its responsibility of protecting the public from both ionizing and nonionizing sources of radiation. To reduce the incidence of disease caused by ionizing radiation, the program:
 - Carried out 1,400 surveys of diagnostic x-ray units in hospitals, private medical and dental offices, as well as inspections of nuclear medicine departments and users of radioscopes. A special survey was conducted to study radiation safety efforts at hospitals and clinics relating to patient exposure during routine chest x-rays. To protect the consumer from other sources of man-made radiation and emissions from electronic products, program personnel also surveyed color TV receivers, video display terminals, devices that use lasers, sun tanning lamps, and various consumer products containing radioactive materials.
 - Continued environmental surveillance and inspection of fixed nuclear power stations, two in Massachusetts and one in Vermont on the Massachusetts border. Personnel visited the sites every week to ensure the proper operation of the monitoring equipment. Staff participated in full-scale emergency response exercises at the three nuclear facilities, and conducted a series of training programs for emergency workers in the 10-mile emergency planning zone around the Pilgrim, Rowe, Vernon and Seabrook nuclear power plants to ensure the capability of the workers to protect the health and safety of the residents in an emergency.
 - Participated in the U.S. Department of Energy's Crystalline Repository Project. Participants have been examining 236 crystalline rock formations in the 17 states granted study awards to identify potentially acceptable sites for the burial of highlevel radiation waste.

Enhancing Patient Services and Health Care Cost Containment

The Department carries out its mandate — "To maintain, protect and improve the health and well-being of the people" — not only through its programs of direct services, but through programs of standard setting for food, water, air, and health care quality. In addition, the Department fulfills its mandate through monitoring, surveillance, licensure and review, and through controlling health care costs wherever possible. The Department's seven hospitals also provide a broad range of preventive, curative, and rehabilitative services to ensure all residents of the Commonwealth high quality, affordable care.

-Highlights-



The Division of Health Care Quality issued licenses to the first two birthing centers in the state under newly promulgated regulations.



The Department established an organ transplantation policy that sought to ensure that organ transplants are introduced into the state in a controlled, phased manner.

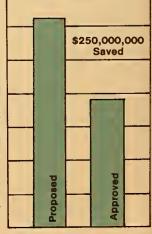


The Division of Health Care Quality also intensified its public information campaign on patient abuse and established a toll-free reporting hotline, resulting in about a 15 percent increase in the number of complaints of abuse, mistreatment or neglect over the previous year.



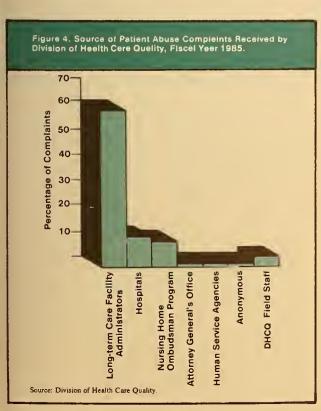
The Department's seven public health hospitals developed a number of new services and programs, among them a Short-Term Alcohol Rehabilitation and Treatment Program at Lakeville Hospital, a Respite Care Program at Rutland Heights Hospital, a Driving Under the Influence Unit at Tewksbury Hospital, and a palliative care unit for AIDS patients at Western Massachusetts Hospital.

The Department's Determination of Need Program (DoN) saved the Commonwealth more than \$250 million in health care costs in fiscal year 1985 through its review of DoN applications. DoN staff also reduced the backlog of pending applications by 59 percent.



Services to Ensure Quality Health Care

In fiscal year 1985, the Division of Health Care Quality, which is responsible for setting the criteria in a health care system that includes more than 1,500 health facilities (hospitals, nursing homes, rest homes, clinical laboratories, blood banks, home health agencies, hospices, state schools, and community-based intermediate care facilities for the retarded), continued to ensure high quality, preventative, curative, and rehabilitative health care to residents of the Commonwealth. In addition, the Division certified that 930 facilities or services were meeting state and federal standards required for participation in the Medicaid and Medicare Programs. The Division's activities included:



- Through its program of licensure and certification, safeguarding patients from: patient abuse, mistreatment, and neglect, misuse of patient's personnel funds, poor sanitary conditions, inaccurate laboratory results, inappropriate use of body restraints, misuse of drugs, too few or inadequately trained staff, inaccurate medical records, improper disposal of infectious hazardous waste, ambulances without proper or working equipment, and fire safety hazards.
- Investigating and, where appropriate, taking action on approximately 210 complaints of abuse, mistreatment or neglect of patients at the facilities it licenses (Fig. 4). This is an increase of about 15 percent over the previous year, the result of a stepped up campaign of public information and the establishment of a toll-free patient abuse hot line. Approximately 50 percent of all complaints of patient abuse were found to be justified. To protect the health and safety of patients, Division staff worked to ensure that the facility took necessary action to prevent further instances of patient harm.

Initiating action to revoke the licenses of 11 substandard operators of long-term care facilities and to decertify 17 substandard nursing homes from the Medicaid Program. Staff also recommended Medicare decertification of two hospitals, one nursing home and one End Stage Renal Dialysis service. During the first six months of 1985, the Division investigated 256 complaints, a dramatic 60 percent increase over the same period in 1983. During the year, the Division appointed a two-member complaint investigation team to provide timely investigations of all complaints. As a result, the "turnaround" time for completion of a report on each complaint has been reduced to 25 days as compared to the six-to-seven week average in 1983.

Carrying out research studies, evaluations of innovative projects, and development of new or revised regulations to identify and respond to changes in the health care delivery system. These included: completion of a survey of approximately 1,200 rest home residents in 55 facilities to determine the relevance of current licensing standards to meet the needs of these residents; issuance of licenses to the first two birthing centers in the state under newly promulgated regulations; issuance of licenses to 36 clinical laboratories in physicians' offices under new laboratory licensing regulations that ensure the accuracy of data used by physicians for diagnosis and for monitoring treatment regimens; convening a Hospice Advisory Committee to assist in the development of hospice licensing regulations; and studying hemodialysis equipment and services provided by hospitals and free standing centers throughout the Commonwealth to identify and select areas that may require regulatory action to prevent malfunctioning of equipment of consequent danger to dialysis patients.

Services to Provide Extensive Hospital Care

The Department of Public Health has seven hospitals equipped for a broad range of clinical services intended especially to meet the needs of long-term disabilities. To respond to the increasing demand for health services to an expanding population, these hospitals have assumed a more direct role in serving the regions in which they are located. They now provide preventive, therapeutic, and rehabilitative services that are often difficult to obtain through the private sector. The seven hospitals admitted 5,709 patients during the fiscal year. The average length of stay varied from 20.8 days at the main unit of the Lemuel Shattuck Hospital to 1,962 at the Cushing Hospital (Table 3). During the fiscal year, the hospitals developed a number of new services and programs to complement existing activities:

- Cushing Hospital, a chronic disease hospital for the elderly, became part of the Department of Public Health early in the fiscal year. In addition to providing a variety of clinics and a day care center for the elderly, the hospital conducted health fairs, wellness workshops, "healthy days", and related programs to provide a broad spectrum of health promotion services and information for older citizens.
- Lakeville Hospital, responding to the state's need for additional Driving Under the Influence (DUI) Programs for second offenders, implemented its Short-Term Alcohol Rehabilitation and Treatment (START) Program. Within three months, a separate building was renovated, staff hired and trained, and a 60-bed unit opened. The hospital recorded a higher patient census than in the previous fiscal year as a result of a concerted effort to admit active rehabilitation patients, thus allowing a higher turnover. Approximately three-quarters of the patients were discharged to their homes. The hospital also provided care to patients who require the support of a ventilator for long periods of time.
- Lemuel Shattuck Hospital continued to provide inpatient care to patients suffering acute episodes of chronic illness and outpatient follow-up. Clients of the Departments of Correction and Mental Health received medical and surgical services. Occupancy remained high 92 percent. Services to the homeless were supported during the year and shelter guests were helped to make the transition from homelessness to employment and housing. The hospital also continued to operate its unique chronic pain facility and sleep research study.
- The Massachusetts Hospital School has, since the turn of the century, provided comprehensive health and educational services to the physically handicapped, intellectually able children of the Commonwealth. To encourage the growth of the handicapped child into a well-adjusted adult, the hospital maintains its independent residential living program. In addition, the young people have actively participated in wheelchair competitions at the state, regional, and national levels. In the Junior Wheelchair Olympics, one patient at the school broke several national records and was deemed a world-class athlete. The facility also helped more students than in previous years to find internship programs at computer and high tech industries, thus setting the basis

- for possible future employment. The number of affiliations of medical schools and colleges with the Hospital School for specialized training continued to grow. Students came from as far away as Michigan.
- The Rutland Heights Hospital, long noted for its expertise in the treatment of alcoholism, enlarged the bed capacity of its 14-Day Residential Alcoholism Program for persons charged with a second drunk driving offense from 131 to 150 to meet the large number of referrals. During the fiscal year, 3,287 clients were admitted. The four-bed Respite Care Program, designed to meet the needs of families caring for the sick and disabled at home, became fully operational and admitted 70 patients during the year. By the end of the fiscal year, Rutland Heights Hospital had finalized plans for a new 20-bed inpatient unit for the treatment of adolescents with drug and alcohol problems. The unit will be the only one of its kind in central Massachusetts.
- Tewksbury Hospital opened its Driving Under the Influence Unit for second offenders in May 1985. Since then, it has been operating at 90 percent of capacity, and 167 clients have completed the 14-day treatment program. In addition to its programs for second offender drunk drivers and the homeless, Tewksbury Hospital, the oldest chronic disease hospital in the state, cooperated with a diverse group of community organizations such as the Clinical Pastoral Education Program, the Day Care Center for children of working mothers with low incomes, Head Start, and the Independent Living Program.
- The Western Massachusetts Hospital, which operates inpatient and outpatient programs for both adults and children, maintained two of its programs for the seriously ill: a palliative care unit for the terminally ill, and its nationally recognized coma unit. During the year, the hospital opened a much needed palliative care unit for AIDS patients. The hospital also operates Kamp for Kids, a day camp for both able and multi-handicapped children, and constructed a challenge course for the camp to assist participants develop not only motor skills but also confidence in themselves.



Summer Olympics at Tewksbury Hospital.



Cushing Hospital patient receiving physical therapy.

Table 3. Public Health Hospitals Annual Census Summary — July 1, 1984 - July 30, 1985.

Hospitals	Admissions	Discharges	Days	Stay*	Census	Visits
Cushing Hospital	67	6	124,591	1,962.0	368.0	
Lakeville	361	342	33,592	90.8	75.7	11,796
Lemuel Shattuck						
Main	1,644	1,530	45,268	20.8	129.9	18,710
Medical Geriatric	55	53	10,830	938.0	38.8	35
Bay Cove (Mental	526	524	23,301	36.8	66.3	483
Health patients)						
Mass. Hospital School	131	115	26,917	313.5	102.0**	1,609
Rutland Heights Hospital						
Chronic	418	398	33,045	86.7	95.9	_
DUI†	1,694	1,753	22,459	-	126.0	_
Tewksbury						
Main	242	73	263,261	1,388.0	721.0	_
Nichols (Homeless men)	290	288	51,172	152.5	148.0	_
Western Mass. Hospital	281	127	28,898	86.4	72.6	8,630
TOTAL	5,709	5,209	663,334	_		41,263

^{*}Stay represents number of days.

**Average daily census at the Massachusetts Hospital School has been adjusted to reflect enrollment days

*Driving Under the Influence Program,

Source: Office of I ocal Health Services and Regional Operations



Challenge course at the Western Massachusetts Hospital Kamp for Kids.

Services to Meet Organ Transplant Needs

In the absence of a national policy, the Department has become increasingly involved in the past two years in the development of a state policy on organ transplantation. In December 1984, the Department announced the adoption of a policy based on the work of two state task forces appointed to examine specific issues related to liver transplantation and the general issues of organ transplantation. Major points of the policy sought to ensure that organ transplants are introduced into the state in a controlled, phased manner, and that criteria for patient selection for the procedures are public, fair, and equitable, and designed to offer transplantation to patients who can benefit the most from it, regardless of ability to pay or insurance status. During the fiscal year, staff of the organ donation, procurement, and transplantation program made substantial progress in several areas:

- Staff reviewed and recommended approval of the application of the Boston Center for Heart

 Transplantation for the implementation of heart transplantation in the state. In approving the application, the Department authorized a three-year trial period for the service. Conditions for the approval required the Center to guarantee access to the procedure and a limit on the drain on other resources.
- The Department authorized several exemptions from the Determination of Need (DoN) process for research programs in pancreas transplantation. The procedure, still considered experimental, has not yet been covered by public and private reimbursement. Patients receiving pancreas transplants during the one-year period will be covered by research money rather than by patient care funds
- The Organ Transplant Fund, authorized by Chapter 693 of the Acts of 1983, became operational in fiscal year 1985. Through their income tax returns, more than 37,000 residents of the state contributed \$184,000 to the fund, which was established to pay for all or a part of the costs of organ transplantation for Massachusetts residents. The fund will be used to assist patients in paying for immunosuppressive drugs and other out-of-pocket expenses associated with their transplants.

Services to Control Health Care Costs

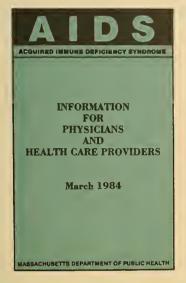
The primary goal of the Department's Determination of Need (DoN) Program continued to be to ensure the people of the Commonwealth appropriate access to good quality health care at the lowest reasonable cost. Through the DoN program, the Department worked to prevent unnecessary building of new facilities or expansion of existing facilities to avoid wasteful duplication of services and facilities. Such duplication contributes to spiraling health costs and reduces the quality of services. During the fiscal year, DoN staff:

- Completed reviews of 179 proposals. Of the \$634,072,140 in capital costs reviewed, \$377,906,955 (59 percent) were approved; \$256,165,145 of the costs, which would have entered the health care system, were found to be unnecessary. Applications ranged from several large projects to numerous smaller projects eligible for "delegated review." The "delegated review" process expedited smaller projects with limited effect upon cost or health service organization by allowing the Commissioner to approve applications for such projects without review by the Public Health Council.
- Achieved its goal of substantially reducing the backlog of pending projects. Pending applications have been reduced from 325 to 212, a reduction of 59 percent. Fewer than 90 applications have been pending for longer than 10 months. Expeditious review of projects has helped to keep projects at their original estimated costs.
- Generally revitalized the program, which was able to respond more quickly and effectively to the demands of the health care system.

Controlling Communicable Diseases

The Department carries out health surveillance and disease control activities to protect the health of the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and the assessment of threats to the population. To strengthen the Department's programs in the control of communicable diseases, the Divisions of Communicable Diseases and Tuberculosis Control and the State Laboratory Institute were consolidated in the last fiscal year into a new Center for Laboratories and Communicable Disease Control, located in the Theobald Smith Health Facility in Jamaica Plain.

-Highlights-



Statewide efforts provided needed counseling and testing services for persons with Acquired Immune Deficiency Syndrome (AIDS).



Analyses of toxic chemicals such as polychlorinated biphenyls (PCBs) received considerable attention in fiscal year 1985.



Capability for analyses of illicit drugs was virtually doubled with the implementation of a supplementary budget for forensic drug laboratory work.



Diphtheria, tetanus, and pertussis (DPT) immunization continued uninterrupted in the state. In addition, the Massachusetts Legislature enacted a bill filed by the Department to require up-to-date immunization status of all entering college and postgraduate students.

Services to Prevent Disease

During fiscal year 1985, the Center for Laboratories and Communicable Disease Control concentrated its efforts on emerging health problems while maintaining the quality of its on-going services (Table 4):

 Statewide efforts provided needed counseling and testing services for persons with Acquired Immune Deficiency Syndrome (AIDS). The number of cases continued to increase among high-risk groups at a significant doubling rate (Fig. 5). The Department provided state support to the Governor's Task Force on AIDS which, in conjunction with the Massachusetts AIDS Research Council, channeled state funds to medical researchers and health care providers for projects to advance knowledge, improve the treatment, or identify potential therapeutic agents for AIDS. As a result of the work of the task force and the Department, AIDS was made a reportable disease. By the end of the fiscal year, steps had been taken to create an office within the Department to help manage the state's AIDS activities and to hire a state AIDS Coordinator.

Table 4. Center for Laboratories and Communicable Disease Control

Laboratory Services
July 1, 1984 - June 30, 1985.

Program (unit of massure)	Number
Program (unit of measure) Biologics (immunizing doses produced)	Number
Serums	121,934
Vaccines	922,480
Total number of human doses	1,044,414
Newborn Screening (children tested)	
Massachusetts	82,115
Other New England states	87,884
Total number of children screened	169,999
Microbiology (samples tested)	
Bacteriology	120,529
Mycobacteriology	29,932
Virology and rabies	13,892
Serology	113, 713
Clinical investigations	5,525
Total number of samples	283,591
Food and Environmental (samples tested)	
Food safety	10,994
Environmental/human exposure	2,070
Total samples tested	13,064
Drug Analysis (samples tested)	
Cocaine	8,245
Heroin	7,603
Marijuana	46,164
Other controlled substances	10,991
Total samples tested	73,003

- Tuberculosis was identified as a serious problem among the state's homeless population. The development of laboratory and epidemiologic data enabled state and city health agencies to mount a strong case-finding effort, identifying tuberculosis among the homeless, and referring affected individuals for appropriate treatment. Follow-up indicated the effectiveness of therapy and also revealed the difficulty and cost of reaching at-risk populations out of the mainstream of society.
- Refugee health problems received special attention through the use of federal grants and intensive community work with field coordinators. The Department has been working to develop new means of delivering health services to newer immigrant groups, such as Cambodians and Thais, to prevent serious illness, high infant death rates, and impairment of future health.
- Diphtheria, tetanus, and pertussis (DTP) immunization continued uninterrupted in the state. Massachusetts was unique among the states in its ability to provide adequate supplies of DTP vaccine for children. In addition, Massachusetts was able to meet emergency requests for DTP vaccine, manufactured at the state Biologic Laboratories, for school immunization clinics in neighboring states that were unable to obtain sufficient supplies from commercial sources.
- Major measles outbreaks occurred in Massachusetts colleges as well as throughout college campuses in the country. Communicable Disease Control staff worked closely with college health services and local health departments to control these outbreaks. Approximately 30,000 doses of vaccine were distributed to 56 colleges; special vaccination clinics were established, and quarantine advisories issued when necessary. The



Laboratory staff conducting HTLV III antibody test for AIDS.

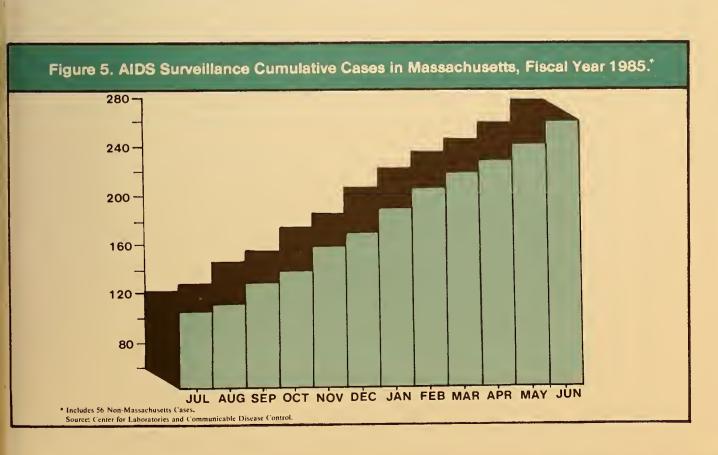
Massachusetts Legislature enacted a bill filed by the Department to require up-to-date immunization status of all entering college and postgraduate students. It is expected that implementation of the law will help prevent future outbreaks.

- Lyme Disease, a tick-borne infection, was recognized more frequently on the North Shore. This is a major new site outside the endemic focus on Cape Cod and the Islands. Communicable Disease Control staff provided increased laboratory testing services, as well as consultation and information on prevention to physicians in the affected areas. By adding Lyme Disease to the Department's list of reportable diseases, identification of "hot spots" for investigation by state epidemiologists will be facilitated.
- Outbreaks of foodborne diseases were investigated in restaurants, hospitals, nursing homes, schools and large group picnics. Salmonella, campylobacter, shigella and Norwalk virus were the major groups of organisms confirmed by the laboratory. Findings from epidemiologic and laboratory investigations provided a sound basis for public health intervention.
- Venereal disease control programs underwent a major review to determine the effectiveness of service delivery to critical areas. Planned changes, including the requiring of treatment protocols, cost control for the Department of Public Health, and introduction of testing services for chlamydia, will now be implemented.

Services to Ensure Healthy Infants

The basic screening services that identify treatable disorders operated effectively during the year, and all newborn infants in Massachusetts were tested.

- New program initiatives were added to the programs to prevent hypothyroidism, phenylketonuria (PKU), homocystinuria and other amino acid disorders.
- A follow-up laboratory study was performed to determine the feasibility of using the newborn blood sample already submitted for screening to test for the infectious disease toxoplasmosis, which can cause blindness or mental retardation in children who may have a silent infection at birth. A pilot toxoplasmosis screening program to determine the prevalence of infection in newborn infants and to assess the utility of a regular screening program received new state funding support.
- Collaborative work with Boston City Hospital to assess the effects of drug abuse in pregnancy got underway under a grant from the National Institute on Drug Abuse. Laboratory analyses were being done to determine accurately drug abuse in pregnant women as an aid to clinical studies in assessing the relation of drug abuse to birth defects. These studies can lead to improvement in prevention, care, and control of risks to the normal development of the fetus and a healthy newborn.





Taking newborn blood sample to test for PKU and other metabolic disorders.

Services to Meet Vaccine and Serum Needs

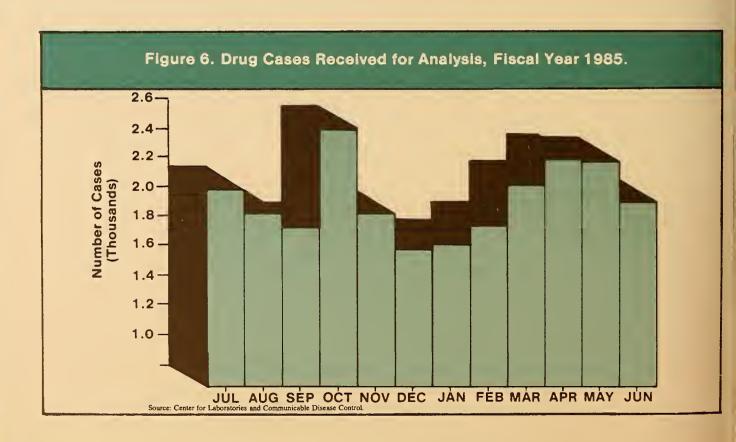
Despite the on-going work of a difficult renovation of the Biologic Laboratory facility, the production and distribution of vaccines and serums proceeded on schedule and met the needs of the Commonwealth. Newer specialty products, i.e., Varicella Zoster and CMV Immune Globulins, were produced and used in disease treatment and prevention for seriously ill patients.

Services to Analyze Toxic Exposures

Programs to meet the rapdily growing demands for measuring or estimating human exposure to toxic chemicals were maintained and new ones developed. Analyses of toxic chemicals received considerable attention in fiscal year 1985. Included were levels of polychlorinated biphenyls (PCBs) in serum specimens from participants in the Greater New Bedford Health Effects Study and from specimens taken from lobster and fish, and residues of pesticides in food, with specific emphasis on monitoring of ethylene dibromide (EDB). Food sampled in Massachusetts after the introduction of regulations no longer had high levels of EDB.

Services to Analyze Illicit Drugs

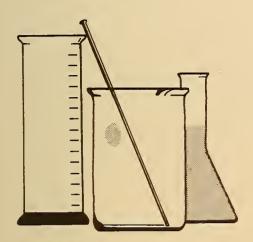
An initiative to increase analytical services to law enforcement agencies was implemented with the passage of a supplementary budget for forensic drug laboratory work. Capability for analyses was virtually doubled to meet the demands of expanded law enforcement efforts to control drug abuse and trafficking. Drug samples were submitted to the laboratories in record numbers during the year, with cocaine emerging as a major contributor to the drug trafficking problem in Massachusetts (Fig. 6).



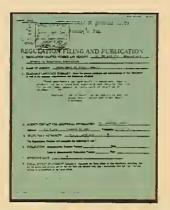
Providing Support Services

To assist the program units and divisions in carrying out their assigned responsibilities, the Department of Public Health staffs other divisions and offices whose main tasks are support and coordination of services.

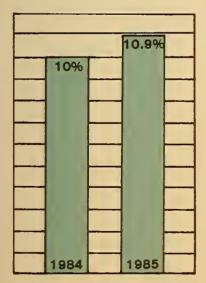
-Highlights-



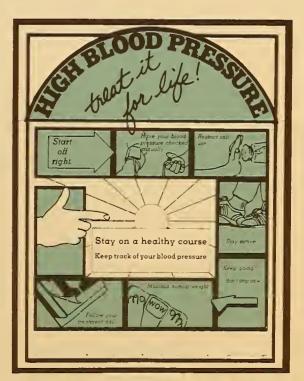
The Research and Epidemiology Unit of the Division of Health Statistics and Research cooperated with the National Institute for Safety and Health (NIOSH) to study the relationship of occupation to cancer and birth outcomes.



The Office of General Counsel helped to develop more than 20 sets of new regulations.



The work of the Division of Human Resources and the Affirmative Action Office resulted in an overall increase of minority employees in the agency from 10 to 10.9 percent.



The Office of Public Information and Health Education issued 70 press releases, arranged seven news conferences, responded to nearly 2,000 inquiries, and helped plan four statewide public education campaigns during the last fiscal year.

Services to Develop Long-Range Planning

The Office of Policy and Planning coordinated all legislative activities for the Department, proposed policy recommendations on agency priorities and programs, and acted as a liaison with constituent groups of health providers and consumers in the state. During fiscal year 1985, the Office coordinated testimony and tracked the progress of 15 bills filed by the Department and of 400 health-related bills supported by the Department.

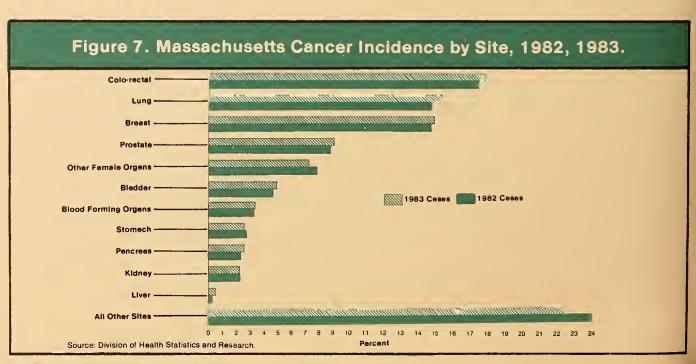
Services to Provide Legal Support

The Office of the General Counsel served as the legal liaison between the Department and the public. It provided the legal knowledge and support required by other divisions in promulgating regulations to protect the health and safety of the people of the Commonwealth. New regulations on ambulance licensure, food establishments, abuse and neglect of nursing home patients, the care of laboratory animals used for research, and the prescribing of medications by nurse practitioners and physician assistants were among the more than 20 sets which Office staff helped to develop.

Services for Coordinated Health Data and Statistics

Statistics compiled by the Division of Health Statistics and Research have become increasingly important as a guide to the Department in setting priorities, formulating and implementing health policy decisions, and evaluating program results. The officially designated Massachusetts Center for Health Statistics, the Division provides coordination of health data among agencies that collect and use such data, and statistical standards and technical assistance to users of health and demographic data. Among the Division's major activities in fiscal year 1985 were:

- The preparation of completely revised 1982 and 1983 editions of the Annual Report of Vital Statistics.
- Preparation of the Massachusetts Cancer Registry's 1983 Report of Cancer Incidence in Massachusetts. The increasing number of cases of lung cancer throughout the state, especially in women, was one of the important findings (Fig. 7). Cancer Registry data served as an important resource for other divisions of the Department, principally the Center for Health Promotion and Environmental Disease Prevention.
- Initiation by the Research and Epidemiology Unit of a cooperative agreement with the National Institute of Safety and Health (NIOSH) to develop an analytical surveillance system of the relation of occupation to cancer and birth outcomes.
- Initiation of a case-control study, funded by the federal Environmental Protection Agency, to determine the effects on cancer mortality of chlorine and chloramine in drinking water in 54 towns.
- Preparation of the Massachusetts Chart Book, a comparison of patterns of mortality in Massachusetts at the beginning and end of the past decade, as well as comparison of Massachusetts mortality data with those of the United States.



Services to Centralize Administrative Support

Within the Bureau of Management Services are located the Divisions of Data Processing, Budget, and Human Resources, the Offices of Employee Relations, Affirmative Action, and Central Services, and the Central Library. Among the accomplishments in fiscal year 1985 of these units, which provide central administrative support services to the Department, were:

- The assurance of equal opportunity to all employees of the Department. The Division of Human Resources and the Affirmative Action Office assisted various divisions in the employment of an additional 110 minority persons during the fiscal year, raising the total number in the Department to 534, an overall increase from 10 percent to 10.9 percent. In addition, an agreement was completed and signed with the U.S. Office for Civil Rights ensuring that the Department is in compliance with federal laws and regulations in its practices for hiring, providing proper working conditions, and promoting personnel who are handicapped. The Department also implemented the Governor's Minority Business Enterprise Program in which funds were specified for goods and services to be provided by minority owned or managed businesses, and a telephone device for the deaf was installed to allow the hearing impaired to communicate directly with the Department.
- The participation of the Department in the Commonwealth of Massachusetts Paper Recycling Program, organized through Central Services. In addition to saving a valuable resource, the program offers regular employment to persons with developmental disabilities.
- The subsidizing of the libraries at the Rutland Heights Hospital and the Massachusetts Hospital School to do computerized literature searches on the National Library of Medicine's data bases, thus bringing the number of the Department's libraries providing such searches to five. In addition, in the Department's Central Library, the use of computer

search services more than doubled during the year. At the same time, the requests for material, articles, and books increased to nearly 3,000. The Central Library is now able to send requests for material to over 4,900 public, academic, corporate, and governmental libraries by using the nationwide computer system.

Services to Disseminate Information

The Office of Public Information and Health Education continued its activities designed to keep the public up-to-date about health issues. In fiscal year 1985, the Office:

- Issued 70 press releases.
- Arranged seven news conferences.
- Responded to nearly 2,000 inquiries from the press, the public, and legislators.
- Assisted in the coordination of four statewide public education campaigns.
- Developed public service announcements, brochures, pamphlets, and fact sheets that, among other topics, alerted the public to the dangers of fetal alcohol syndrome, the effects of the threat of nuclear war on children, and the facts about DES.
- Issued a major publication, "Ten Initiatives to Improve Public Health in Massachusetts," which was distributed state and nationwide.
- Organized a series of Public Health Rounds programs that included, among others, a threesession "Access to Health Care: Who's Losing Out and Why?, a session on children growing up in the nuclear age, and a session on lead in gasoline.

By the end of the fiscal year, the Office was collaborating with other divisions within the Department on plans for educational campaigns in fiscal year 1986 on the early warning signs of heart attack, the common risk factors for the three leading causes of death (heart attack, cancer, and stroke), and the prevention of infant mortality.



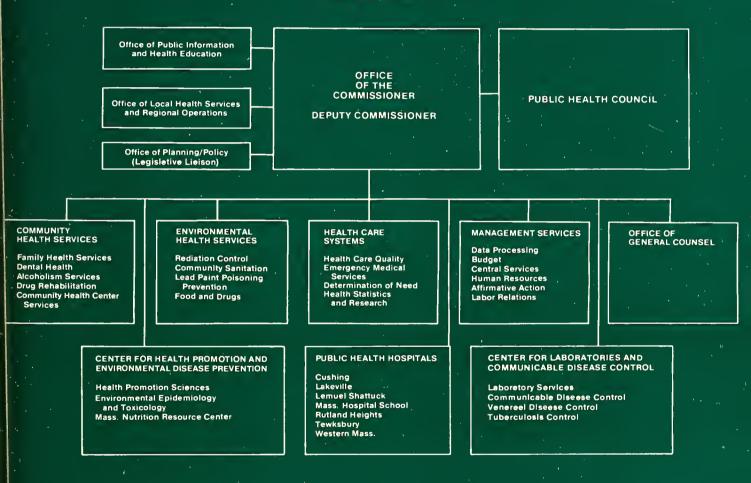
Children in Family Health Services slide tape show "Every Family A Healthy Family".

Department of Public Health Expenditure Report July 1, 1984 - June 30, 1985.

	STATE	FEDERAL	TOTAL
COMMISSIONER'S OFFICE	994,767	_	994,767
MANAGEMENT SERVICES	3,170,581	_	3,170,581
GENERAL COUNSEL	204,383	_	204,383
Sub-Total	4,369,731		4,369,731
CENTER FOR HEALTH PROMOTION & ENVIRONMENTAL DISEASE PREVENTION			
Environmental Epidemiology & Toxicology	250,525	11,747	262,272
Health Promotion Sciences Sub-Total	747,391 997,916	$\frac{703,284}{715,031}$	1,450,675 1,712,947
	777,710	713,031	1,/12,54/
OFFICE OF LOCAL & REGIONAL HEALTH SERVICES	715,218	75,000	790,218
COMMUNITY HEALTH SERVICES	, 15,210	, 2,000	, , , , , , ,
Family Health Services	21,139,303	34,350,300	55,489,603
Dental Health	2,449,585	251,000	2,700,585
Community Health Centers	1,159,184	_	1,159,184
Alcoholism	23,631,641	4,420,600	28,052,241
Drug Rehabilitation Sub-Total	6,656,486 55,036,199	3,880,672	<u>10,537,158</u> 97,938,771
	55,030,199	42,902,572	97,936,771
ENVIRONMENTAL HEALTH SERVICES	012 127	(50,000	1.5(2.127
Lead Poisoning Prevention Radiation Control	912,127 284,965	650,000 18,631	1,562,127 303,596
Food and Drugs	1,317,962	16,031	1,317,962
Community Sanitation	28,240	216,481	244,721
Right-to-Know	80,987		80,987
Sub-Total	2,624,281	885,112	3,509,393
HEALTH CARE SYSTEMS			
Health Statistics and Research	1,433,263	204,200	1,637,463
Determination of Need	489,514	_	489,514
Emergency Medical Services	438,689	1,012,018	1,450,707
Health Care Quality Sub-Total	3,707,498	864,218 2,080,436	4,571,716 8,149,400
	6,068,964	2,080,430	0,149,400
CENTER FOR LABORATORIES & COMMUNICABLE DISEASE CONTROL			
State Laboratory Institute	5,702,997	_	5,702,997
Communicable and Venereal Diseases	5,300,070	184,703	5,484,773
Tuberculosis Control	2,625,279	207,792	2,833,071
Sub-Total	13,628,346	392,495	14,020,841
HOSPITALS			
Cushing Hospital	12,722,845	_	12,722,845
Lakeville Hospital	8,261,153	_	8,261,153
Lemuel Shattuck Hospital	21,146,039	_	21,146,039 7,629,928
Massachusetts Hospital School Rutland Heights Hospital	7,629,928 7,440,592	_	7,629,926
Tewksbury Hospital	20,592,801		20,592,801
Western Massachusetts Hospital	6,048,815	_	6,049,815
Sub-Total	83,842,173	_	83,824,173
TOTAL	\$167,282,828	\$47,050,646	\$214,333,474
	721,202,023	,	-,,-

EXECUTIVE OFFICE OF HUMAN SERVICES MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1985



The Commonwealth of Massachusetts Michael S. Dukakis, Governor

Executive Office of Human Services Philip W. Johnston, Secretary

Department of Public Health Bailus Walker, Jr., Ph.D., M.P.H., Commissioner

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Innovations in Public Health

Massachusetts Department of Public Health

1986 Annual Report



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HIGHLIGHTS

Healthy Start — to deliver prenatal and postpartum care to uninsured pregnant women.

Advocacy Office — to investigate and resolve complaints of discrimination against Medicare patients by hospitals.

Health Resources Office — to serve as clearinghouse for activities related to Acquired Immune Deficiency Syndrome (AIDS).

New AIDS Policies — for attendance of preschool, developmentally disabled, and school-aged children diagnosed with AIDS; and for food handlers.

Great Little Decisions — public education campaign — recipient of a Community Health Promotion Award for 1986 from Secretary of Health and Human Services.

Daminozide — limits set on amounts of potential carcinogen allowed in heat-processed apple products.

Model Statewide Cancer Prevention Program — to reduce risks of cancer by controlling exposure to environmental and occupational carcinogens.

Series of Regional Tours — conducted by the Commissioner for discussion of public health goals and initiatives.

State Lilia y of Massachusetts State House, Boston

TO THE PEOPLE OF MASSACHUSETTS

In the following pages, you will discover ample evidence that the prevention of disease and disability and the provision of a broad array of services are neither routine activities nor theoretical questions. You will also find that Department of Public Health employees bring to these tasks a sincere commitment, dedication, and talent.

To meet new and recurring problems in public health, the Department led the way in developing innovative programs to protect the health and safety of the people of the Commonwealth. Responding to the report of the Task Force on Prevention of Low Birthweight and Infant Mortality, the Department assumed responsibility for the operation of Healthy Start, making available prenatal, delivery, and postpartum care to uninsured pregnant women.

Through the creation of a Health Resources Office and the appointment of a statewide Acquired Immune Deficiency Syndrome (AIDS) coordinator, the Department was able to promote research and to coordinate and improve services available to AIDS patients. At the same time, the Department developed and implemented policies related specifically to AIDS carriers. Guidelines on AIDS and food handlers to reinforce existing state regulations on food establishments and communicable diseases were developed. Responding to the special concerns of parents and other citizens about the risk of transmission of the AIDS virus among preschool-aged children and the developmentally disabled, as well as the entire school population, the Department approved a policy governing the attendance and care of such children with clinical AIDS or evidence of infection with the AIDS-associated virus.

The Department's seven public health hospitals, which have traditionally responded to the changing needs of society by providing care to patients who lacked access to services, continued to develop innovative programs to meet the needs of the underserved. Rutland Heights Hospital, long known for its expertise in the treatment of alcoholism, developed a rotating residency program with the University of Massachusetts Medical School that trained first-year residents in various aspects of alcoholism, including the nature of the disease, community resources and relations, and family structures. The program is the first major medical teaching program that specifically addresses the problem of alcoholism and its prevention.

To reduce deaths from heart disease, cancer, and stroke among Massachusetts residents, the Department's Center for Health Promotion and Environmental Disease Prevention initiated the Great Little Decisions program. Television, radio, and newspapers carried the message of the importance of changing one's lifestyle. Another innovative approach was using beauty salons and barber shops as the sites for blood pressure screenings, thereby increasing the opportunity for easy access to this service.

The potential health risks posed by long-term exposure to chemical residues in our food and water supplies represent a pressing public health issue. When studies pointed to daminozide (marketed under the trade name ALAR) as a carcinogen in laboratory animals, the Department acted quickly to set limits on the amounts of the chemical allowed in heat-processed apple products sold in the Commonwealth. The action made Massachusetts the first state in the nation to adopt such standards.

To improve patients' access to needed health care and services and to protect patients from harm, the Department established an Advocacy Office to provide a mechanism for the review and investigation of patient or provider complaints of alleged discrimination against Medicare patients by hospitals. At the same time, amendments to the long-term care licensure regulations permitted physician assistants and nurse practitioners working in a team with a practicing physician to prescribe medications and to order tests and therapeutics for nursing home and rest home residents. The regulations are intended to reduce overall health care costs for such residents by preventing unnecessary emergency room visits and hospital admissions.

These activities reflect only a small part of the Department's overall programs and services — new and ongoing — in fiscal year 1986 to reduce the risks of disease and disability in the Commonwealth, and to bring services to the most vulnerable sectors of the population. We thank the Governor, the Massachusetts Legislature, and the Executive Office of Human Services for their support of public health activities. We also appreciate the work of many other agencies, organizations, groups, and individuals who have cooperated with the Department in making health care accessible to the people of the Commonwealth.

Sulusevally Ph.D.

Bailus Walker, Jr., Ph.D., M.P.H. Commissioner

MEETING PEOPLE'S NEEDS
To meet the complex health needs of an
expanding population, the Department of
Public Health has instituted new, and
strengthened existing, programs in the
divisions and units that provide a major part
of the direct services to the people of the
Commonwealth. Emphasis has been on a
comprehensive approach to the provision of
health care throughout the Commonwealth
and the development of innovative programs
to reach the underserved.

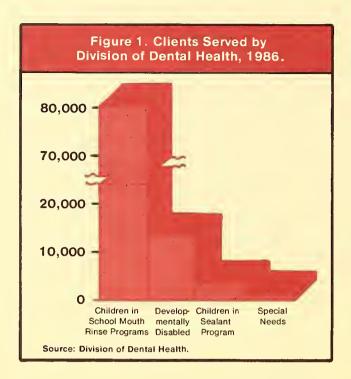
ALCOHOLISM AND DRUG REHABILITATION

The Divisions of Alcoholism and Drug Rehabilitation, responding to the growing awareness that many of their clients abuse both alcohol and drugs, merged in January 1986, to meet more effectively the varied needs of the residents of Massachusetts. The mission of the merged Divisions is to provide effective prevention, early intervention, and treatment services of high quality. The Divisions initiated several new projects to meet the needs of underserved populations:

- Established a Triage and Transportation Project to facilitate access to services for dually addicted, mentally ill, and homeless clients in the Boston area; and developed a plan with the Executive Office of Human Services and the Department of Mental Health for joint sponsorship of a specialized, intensive detoxification facility to serve such clients.
- Awarded monies to eight programs to provide substance abuse counseling and reentry services to substance abusers in correctional institutions.
- Established the Southeastern Massachusetts
 Parole Project, a joint effort with the Office of

Probation and the Department of Correction to initiate and monitor substance abuse treatment for paroled inmates.

- Established the Minority Alcoholism Task Force and Minority Drug Task Force to develop regional plans to increase alcohol and drug services for Blacks, Hispanics, Portuguese, and other minorities.
- Expanded funding to increase to seven the number of youth residential treatment programs serving young people whose alcohol and/or drug problems have caused personal, school, and family problems. The Department's prevention efforts were carried out in conjunction with the Governor's Alliance Against Drugs and regional primary prevention centers across the state.
- Responded to the increase in needle-using drug abusers with AIDS by preparing a comprehensive report, in conjunction with the Department's newly developed Advisory Committee on AIDS and the Needle-Using Drug Abuser. Recommendations for prevention and treatment intervention will be implemented in the next fiscal year.



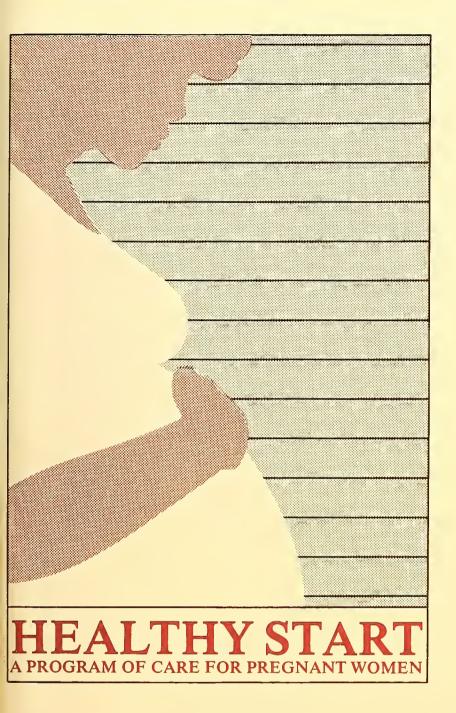
DIVISION OF DENTAL HEALTH

The Department's Division of Dental Health worked to prevent dental disease in the Commonwealth through support of fluoridation of public water supplies, educational campaigns on good health practices, and the provision of dental care for wards of the state (Fig. 1).

- Prevention of Oral Disease The Division initiated a fluoride tablet program for 281 low-income preschool children, including 27 percent of eligible children enrolled in the Headstart Program. This effort complemented ongoing programs that increased to 111 the number of communities with fluoridated public water supplies serving over 3.2 million people in 1986, and to 80,000 the number of children in the school-based Fluoride Mouthrinse Program.
 - The Sealant Program, a federally funded demonstration project for the prevention of tooth decay among children, treated over 3,000 children from 42 schools. The program received an award from the American Dental Association for its work in reaching children in local health centers, schools, and private dental offices.
 - The Division's aggressive action to alert consumers to the adverse oral health effects of smokeless tobacco culminated in federal legislation requiring warning labels on all packages and print ads and a ban on electronic advertising in the United States. Congressional staff credited the actions of the Department, which had promulgated the first-in-thenation regulation requiring a health hazard warning label on containers of snuff, for quick passage of the federal law.



- Dental Care The Division expanded programs to meet the needs of publicly supported groups outside the mainstream of health services:
 - The purchase of a mobile van brought dental care to 190 children in 10 Department of Youth Services' residential sites.
 - The opening of a new specialty dental clinic in the Pittsfield area increased the number of clinics to eight and the number of visits of developmentally disabled clients of the Department of Mental Health to over 20,000.
 - Responding to the high unmet dental needs among the elderly in nursing homes, the Division provided indepth training to dentists, loaned medical equipment, and covered traveling expenses for participating dentists. The program provided dental care for 500 elderly in nursing homes.
 - The Division conducted training programs for over 1,000 dental personnel on the care and treatment of patients with, or at high risk for, infectious diseases, with special emphasis on Acquired Immune Deficiency Syndrome (AIDS). A pamphlet answering questions that dentists might have about AIDS was written in conjunction with the AIDS Task Force.



FAMILY HEALTH SERVICES

During fiscal year 1986, the Division of Family Health Services made important progress in reducing the gap in infant mortality rates between communities of higher and lower socioeconomic status; in reducing the incidence of malnutrition, especially among children and pregnant women; and in reducing mortality and morbidity among children and adolescents due to accidental injuries.

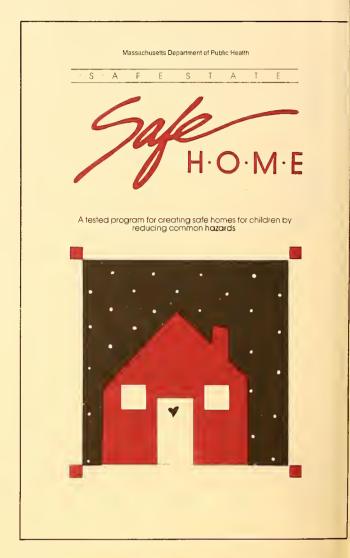
- Healthy Start, one of the first programs in the country to provide prenatal, delivery, and postpartum care for uninsured women, enrolled over 4,500 pregnant women in the program between December 1985 and June 1986.
- The Division also launched a media and education campaign on promoting healthy birth outcomes with the

production of a slide-tape show, **Closing the Gaps**, shown to health providers, community groups, civic groups, legislators, and the public.

- Increased primary care resources to areas of the state with very high rates of infant mortality and limited access to care allowed the Department to expand and improve its network of **Maternal and Infant Care (MIC) Projects** in high-risk communities. The Elm Street Prenatal Clinic was opened at the Providence Hospital in Holyoke to provide comprehensive care to 500 women a year from western Massachusetts.
- Continued state support ensured that the federal Special Supplemental Food Program for Women, Infants, and Children (WIC) would provide nutritious food, nutrition counseling, and health care referrals to 63,000 women, infants, and children up to the age of five who are at

nutritional risk. The pilot **Southeast Asian (SEA) Project** trained 12 Southeast Asians as nutrition assistants to provide direct nutrition education and counseling for the SEA community.

- The newly established Office of Nutrition undertook several new initiatives:
 - Reactivation of the Massachusetts Nutrition
 Board, established by legislation in 1974 to advise
 state agencies on nutrition policies and strategies to
 improve the nutritional status of residents of the
 Commonwealth.
 - Release of the first annual report of the Failure-to-Thrive Program, which provided diagnosis and multidisciplinary treatment for 600 severely underweight children and their families. Results indicate that 44 percent of the children with at least one follow-up visit showed improved growth; for an additional 44 percent, the growth rate stabilized.
 - A pilot disease prevention and health promotion program in two residential sites operated by the Department of Youth Services, to reach an underserved and often-neglected group of adolescents.
- The High Risk Infant Identification System was strengthened by new legislation providing a statutory basis for the system, which identifies approximately 7,000 infants each year. The law also improved the payer-of-last-resort program for hospital and transportation costs of financially eligible high-risk infants.
- The Department's Statewide Comprehensive Injury Prevention Program (SCIPP), nationally recognized for its successful programs to reduce childhood injuries and deaths, continued to make progress:
 - In fiscal year 1986, SCIPP awarded grants to eight local injury prevention programs targeted toward children.
 - Aiming to reach at least 25 percent of the 1.4 million children and adolescents in the state by 1987 and to reduce injury-related hospitalizations and deaths by 10 percent by 1990, SCIPP developed an innovative training program SAFESTATE. Two of the six training modules were prepared during the year and distributed throughout the state.



- The Division's Massachusetts Passenger Safety Program (MPSP) provided technical assistance and support in the successful campaign for passage of seat belt legislation, which became effective on January 1, 1986.
 MPSP also worked to improve school bus safety.
- The Services to Handicapped Children's (SHC) Section served approximately 10,000 children from birth to age 21 through three units: the Early Childhood Development Services, the Community Services, and the Clinical Services Units.
 - The Community Services Unit, which serves children
 in home health care, pediatric nursing homes, and
 camp programs, produced a slide show, There's No
 Place Like Home, part of a two-year recruitment
 project to attract foster and adoptive families and
 home care health workers to care for medically
 involved and multiply handicapped children.
- The Women's Health Unit of the Division of Family Health Services focused on services for specific problems like violence and sexual abuse, and services for particularly vulnerable groups of women such as women in prisons and minorities:







Evelyn Murphy, Secretary, Executive Office of Economic Affairs, Carole Bellamy, President, New York City Council, and Commissioner Bailus Walker, Jr., speaking at "Women in the Workplace" conference.

- A two-day conference, Women in the Workplace, a first in the state, was convened to address occupational health, safety issues, the economic status of women, and related social issues.
- A Women's Health and Learning Center, a collaborative effort with the Department of Correction, served over 800 women in prison, many of whom are mothers in need of health promotion counseling.
- Rape Prevention and Victim Services provided counseling, advocacy, and education on sexual assault and battering to over 2,000 rape victims and family members in 17 programs across the state, a 20 percent increase over the previous year.

The Division of Family Health Services also increased multidisciplinary services throughout the Commonwealth with the objective of preparing adolescents for a healthy, productive adulthood. Health care and supportive and educational services were made available to adolescents, including pregnant and parenting teens.

HEALTH RESOURCES OFFICE

The Health Resources Office was established in August 1985 to improve the delivery of health care services through effective administration and management of statewide resources. One of the first tasks of the Office was the coordination of activities to curtail the spread of AIDS and to provide services for people with the disease Working with the Governor's Task Force on AIDS, the Health Resources Office carried out an intensive educational program on AIDS for the general public, for persons at high risk, and health organizations. The Office also developed a plan for the allocation of resources to support expansion of home and hospice care, specialized shelters for the homeless and intravenous drug users. In addition, the Department has supported research on the causes, care and treatment, and prevention of AIDS, and programs to follow up blood donors found positive for the AIDS-associated virus.

CONTROLLING COMMUNICABLE DISEASES Health surveillance and disease control activities to protect the people of the Commonwealth through testing, vaccination, treatment, analysis of disease trends, and assessments of health risks to the population are the responsibilities of the Center for Laboratories and Communicable Disease Control. Within the Center are the State Laboratory Institute, and the Divisions of Communicable Diseases and Tuberculosis Control.

CENTER FOR LABORATORIES AND COMMUNICABLE DISEASE CONTROL

The Center for Laboratories and Communicable Disease Control completed its first full year of operations as the bureau into which all state public health infectious disease programs had been merged. The beneficial effects of the Center are reflected in greatly improved health services in the Commonwealth (Table 1).

- To reduce morbidity and mortality among newborns, children, and adolescents, the Center implemented several new programs, while strengthening its traditional services to children:
 - A new vaccine, Haemophilus influenzae type b
 (Hib), was provided free of charge to public clinics
 and neighborhood health centers throughout the
 state for use in children between two and three years
 of age to prevent the most common cause of
 bacterial meningitis in children.
 - The college immunization law, the first state law in the nation to require college students to be immunized against measles, mumps, rubella, tetanus, and diphtheria, was implemented. Implementation of the law will help prevent future outbreaks of these five diseases among college students in Massachusetts.

Table 1.

Center for Laboratories & Communicable Disease Control

Program Services July 1, 1985 - June 30, 1986.

Program (unit of measure)	Number
Biologics (immunizing doses)	
Serums	113,146
Vaccines	1,893,340
Total number of doses	2,011,486
Newborn Screening (children tested)	
Massachusetts	84,846
Other New England states	91,406
Total number of children screened	176,252
Microbiology (samples tested)	
Bacteriology	107,864
Food bacteriology	7,879
Mycobacteriology	30,450
Virology & Rabies	13,582
Serology	94,682
Clinical investigations	5,625
Total number of samples	260,082
Analytical Chemistry (samples tested)	
Food safety	1,671
Environmental/human exposure	2,838
Illicit drugs	33,358
Total samples	37,867
Clinic services (patient visits)	
Sexually transmitted diseases	33,692
Tuberculosis	25,210
Total patient visits	58,902
Microbiological Culture Kits Distributed	133,743

Table 2.

New England Regional Screening Program

July 1, 1985 - June 30, 1986.

	Massachusetts Other States*		States*	Program Total		
Disorders	Newborns Screened	Cases Detected	Newborns Screened	Cases Detected	Newborns Screened	Cases Detected
Hypothyroidism	84,846	11	91,406	26	176,252	37
Phenylketonuria (PKU)	84,846	4	45,951	4	130,797	8
Galactosemia	84,846	1	45,951	2	130,797	3
Homocystinuria	84,846	0	45,951	0	130,797	0
Maple Syrup Urine Disease	84,846	1	45,951	0	130,797	1
Congenital Toxoplasmosis**	25,798	3	-	-	25,798	3
Total		20		32		52
*Connecticut, Maine, New Hampshire, and Rhode Island. **Screening started January 1986.						

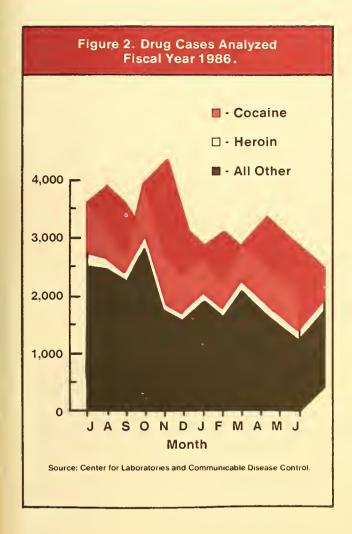
- The Newborn Screening Program added congenital toxoplasmosis to the list of diseases screened in children, the first infectious disease to be screened by any state newborn screening program. Early treatment of the disease may prevent development of central nervous system and eye disorders (Table 2).
- A multihospital randomized clinical trial of an intravenous cytomegalovirus immune globulin (CMV-IV) was completed, and showed that the product was effective in decreasing the incidence of severe CMV disease, which often occurs in young people who receive kidney transplants.
- A pilot program was implemented to identify pregnant refugee women who are carriers of hepatitis B virus and to immunize their newborns at birth.

The Center for Laboratories and Communicable Disease Control redirected resources as required to ensure quality health services to all residents:

 The Center developed the Department's Refugee Health Plan, which provides training, assistance,

- and direct services to refugees and health care providers for the thousands of refugees in the state.
- The allocation of increased resources to clinics with high rates of service use improved the prevention and control of sexually transmitted diseases (STD). The Division of Communicable Disease Control opened its first STD clinic in Springfield, to be used as a model for the provision of communitybased STD services.
- The Tuberculosis Control Program directed special attention to the problem of tuberculosis in homeless groups and in refugees both within and outside its network of inpatient and ambulatory services in community hospitals throughout the state. The program also developed innovative outreach and school-based programs in an attempt to reverse the upturn of the disease in the Commonwealth.

The Center worked with the Division of Drug
Rehabilitation to strengthen efforts to prevent drug abuse
in Massachusetts:





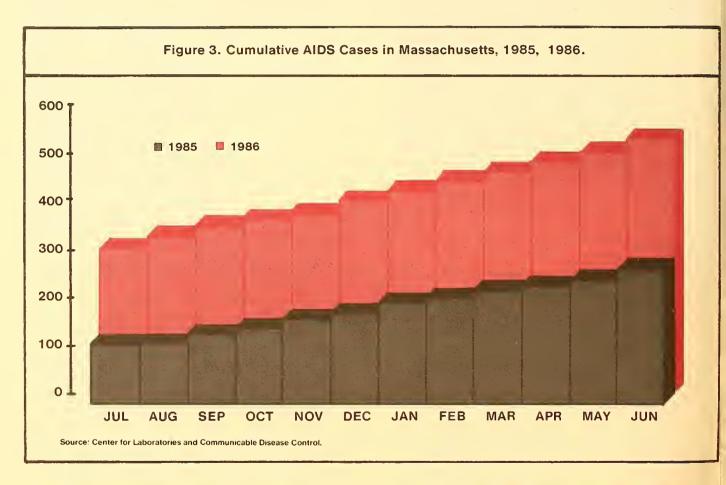
Dr. Ken Girard and Tak Wah Chin in Serology Laboratory.

- Developed an analytical and epidemiologic research capability to combat the problem of drug abuse.
- Conducted research projects to assess the effects of drug abuse on mothers and their children.
- Developed high quality, rapid drug testing services for law enforcement agencies to assist them in stemming the supply of drugs in the state (Fig. 2).
- An intradepartmental **Working Group on Foodborne Illness**, formed in October 1985, comprises
 epidemiologists, laboratory scientists, and food inspectors
 who coordinate the investigation and prevention of
 foodborne illness, and provide assistance to local boards
 of health. Innovative components of the program to ensure
 its success included:
 - Transfer of the Food Bacteriology Laboratory to the Diagnostic Laboratory Division, resulting in improved coordination and sophistication of analysis of food samples and clinical specimens.
 - Assignment by the Centers for Disease Control (CDC) of an Epidemiologic Intelligence Service physician to the Department's Communicable Disease Program.

 Recruitment of a physician, a veterinarian, and epidemiologists to establish a specialized surveillance and epidemiology response team.

To assist the Department in making decisions affecting the health of the residents of the Commonwealth, the Center for Laboratories and Communicable Disease Control has begun to build a sophisticated laboratory capable of conducting biochemical epidemiologic studies, assaying foods for chemical contaminants, and developing data bases on residues:

- Introduction of a gas chromatography/mass spectrometry analysis to support residue and biochemical analytical needs.
- Participation in the federal FOODCONTAM
 pesticide analytical program, a cooperative effort
 under which states and the Food and Drug
 Administration share analytical test results for food
 residues. Massachusetts is one of only four states
 currently participating in the program.



The Center for Laboratories and Communicable Disease Control strengthened its efforts statewide to provide surveillance, education, and testing services for persons with Acquired Immune Deficiency Syndrome (AIDS) (Fig. 3).

- The Center collaborated with staff from the Boston Department of Health and Hospitals on AIDS research and public education. Health education in risk groups such as male homosexuals showed favorable results. At the same time, the emergence of cases of parenteral drug users received special attention.
 - The establishment of alternative testing sites for

persons who would have become high-risk donors has made the blood supply in Massachusetts one of the safest in the nation. Sophisticated reference testing at the Department's laboratories has reduced the number of false positive test results.

 Staff made important contributions to the public's understanding of how to respond to people with AIDS by defining the scientific basis for school and occupational management of infected individuals. The school attendance policy developed for the Commonwealth preceded federal initiatives and became a model for many other state and professional guidelines.

IMPROVING THE HEALTH OF THE COMMUNITY

To improve the health of the

Commonwealth's approximately six million

citizens, the Department continued to

provide direct services through contracts,

organized and implemented more special

programs, and expanded patient care and

ambulatory units in the seven Public Health

Hospitals. At the same time, the Office of

Local Health Services and Regional

Operations strengthened its ties with

community providers, local boards of health,

and other organizations.

NEW TRENDS IN PATIENT CARE

The Department of Public Health's seven hospitals represent more than **350 years of service to the people of the Commonwealth.** Responding to the changing needs of an expanding population and the increasing

demands for health services, the Department established a Bureau of Hospital Management under the direction of an Assistant Commissioner to coordinate services and programs. During fiscal year 1986, the hospitals developed more preventive, therapeutic, and rehabilitative services not always available through the private sector (Table 3).

Table 3.
Public Health Hospitals
Annual Census Summary — July 1, 1985 - June 30, 1986.

Hospitals	Admissions	Discharges	Days	Stay*	Census	Visits
Cushing	51	69	125,235	2,261.0	347.0	
Lakeville	412	398	30,170	73.4	81.9	13,109
Lemuel Shattuck Main Medical Geriatric Bay Cove (Mental Health Patients)	1,560 63 547	1,505 58 546	42,941 25,657 22,588	21.9 1,313.6 37.0	117.6 37.6 63.0	3,849 7 56
Mass. Hospital School	126	127	27,454	139.7	124.5**	1,918
Rutland Heights Chronic DUI ⁺	419 2,320	415 2,301	33,092 29,603	101.0	91.0 81.0	=
Tewksbury Main Nichols (Homeless Men)	170 274	186 264	278,740 25,967	1,499.0 98.0	734.0 152.0	<u>-</u>
Western Massachusetts	221	107	29,292	94.3	100.4	20,992
TOTAL	6,163	5,976	670,739	_	_	39,931

Stay represents number of days.

^{**} Average daily census at the Mass. Hospital School has been adjusted to reflect enrollment days.

Driving Under the Influence Program. Source: Bureau of Hospital Management.



Patient in Pet Therapy Program at Cushing Hospital.

- Cushing Hospital, a chronic disease hospital for the elderly, opened a specialized treatment unit for patients with Alzheimer's disease that provides short-term (respite), intermediate, and long-term care. Cushing's innovative therapeutic modalities have received widespread recognition. Pet therapy has shown how the introduction of animals can have a positive effect on the quality of life of institutionalized older patients; the plant therapy program allows patients to care for small gardens, terrariums, and potted plants.
- Lakeville Hospital, which cares for both children and adults with chronic illnesses and in need of rehabilitative services, emphasized returning patients to their communities, and provided intensive therapy. Responding to the needs of the community, Lakeville opened two new outpatient clinics, a Birth Defects Clinic and an Osteoporosis Clinic.
- Lemuel Shattuck Hospital shifted its emphasis from acute care to the provision of multiple levels of care to different groups of patients for whom adequate health care is not accessible or available in the private sector. A new palliative care service admitted terminal cancer patients who cannot be adequately cared for at home. The

Shattuck also provided care for terminally ill patients with AIDS from the Departments of Correction and Mental Health. The hospital received a grant from the Robert Wood Johnson Foundation to provide medical care for the homeless.

- The Massachusetts Hospital School implemented a number of initiatives designed to encourage independence among its physically handicapped but intellectually able children. The Community Experience Program, now a part of the hospital's comprehensive curriculum, prepared individualized plans for each student and organized 36 trips into the community. The Hospital School's project Enabling Youth for Employment (Project EYE) provided a meaningful work experience to introduce students to the work world, as well as the securing of permanent positions for them upon graduation.
- Rutland Heights Hospital coordinated with the University of Massachusetts School of Medicine a "Family Addiction Residency Rotation Program" for first-year residents enrolled in the School's Community and Family Health Program, the first major medical teaching program that specifically addresses alcohol use and the prevention of alcoholism in the Commonwealth. The hospital also



Patient on Lesser Care Unit, Tewksbury Hospital.

developed plans for a 12-bed unit devoted to the treatment of Vietnam veterans suffering from the effects of Post Traumatic Stress Disorder.

- Tewksbury Hospital, the oldest chronic disease hospital in the state, maintained its programs for the homeless and instituted several innovative programs. Thrity-two patients on the new Lesser Care Unit received a wide range of integrated rehabilitative services and activities to help them reach and maintain a greater level of independence. An inservice training program was organized for students from a local high school to introduce them to physical therapy.
- Western Massachusetts Hospital filled gaps in health care services for a large scattered community. Responding to community needs, the hospital developed a specialty unit for patients with chronic progressive or unremitting neurologic disease. As a result of a proposal submitted by the hospital's employee child care committee, Western Massachusetts Hospital was selected as one of five sites by the state's Division of Capital Planning and Operation to receive funding for the development of an Employee Child Care Center.

LOCAL AND REGIONAL HEALTH SERVICES

The Office of Local Health Services and Regional Operations, through its four Regional Health Offices, coordinated the Department's local health activities throughout the Commonwealth. To keep local boards of health and other health agencies informed of the scientific and technical aspects of public health, the Office undertook several new initiatives:

- Sponsored 40 training sessions on such topics as the legal responsibilities of members of local boards of health, AIDS, school health, community nursing, environmental health, and control of tuberculosis, a disease that resurfaced as a growing public health problem.
- Conducted a three-day training program on housing as a public health issue for 200 local health officers, in conjunction with the Division of Community Sanitation.
- Compiled a listing of the Department's community programs by individual community to make available a valuable resource for staff, legislators, and community agencies.
- Participated with the Office of Public Information and Health Education in regional Press Ahead
 Campaigns to strengthen relations between the Department and health agencies and programs throughout the state.

The four Regional Health Offices developed or coordinated a variety of programs for local boards of health and other health agencies. Among the highlights of the activities of the Regional Health Offices during the fiscal year were:

- Establishing an Advisory Committee to provide a
 working forum for staff and members of local boards
 of health, and assisting 12 communities to explore
 the benefits of a regional health services program
 (Central Regional Health Office).
- Assisting the family of a three-year-old child in need of a liver transplant to locate an organ and to have the operation performed regardless of the family's ability to pay (Northeast Regional Health Office).
- Increasing outreach efforts to strengthen liaison between the regional health office and various community groups, among them, the City of Brockton's Task Force on Health/Human Services (Southeast Regional Health Office).
- Conducting for staff in the regional health office an employee health screening program that focused on high blood pressure, elevated cholesterol, nutrition, and other lifestyle risk factors (Western Regional Health Office).

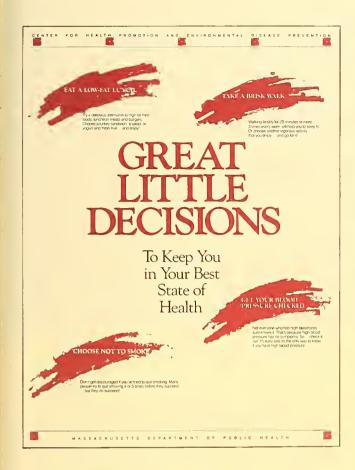
ENHANCING THE HEALTH OF THE PEOPLE
The prevention of chronic disease and
dysfunction among the people of the
Commonwealth remains the keystone of all
activities of the Department of Public Health.
A multifaceted approach to reducing the
incidence of heart disease, cancer, and
stroke — and basic to all preventive efforts
— emphasizes changing people's lifestyles.
The Department has also intensified its
efforts to reduce the risks of physical,
chemical, and biological elements in the
environment. These activities are carried out
by the Center for Health Promotion and
Environmental Disease Prevention and by
the Bureau of Environmental Health Services.

PROMOTING HEALTH AND PREVENTING DISEASE

The Center for Health Promotion and Environmental Disease Prevention, through its two divisions, Health Promotion Sciences and Environmental Epidemiology and Toxicology, supported activities to encourage the adoption of healthy lifestyles among Massachusetts residents, and to identify the determinants of disease to prevent further incidence of diseases linked to toxic elements in the environment.

- The Division of Health Promotion Sciences embarked on several new and innovative programs:
 - The Division, in collaboration with the Office of Public Information and Health Education, developed the Great Little Decisions public education campaign, which emphasized the importance of making lifestyle changes.

- The Division provided funding for eight agencies to implement lifestyle intervention programs in their communities, targeted to reduce the prevalence of the risk factors of smoking, excess dietary fat, and physical inactivity.
- Six regionally based health promotion coordinators provided consultative services for developing worksite health promotion programs, which focus on smoking cessation, reducing excess dietary fat and cholesterol, controlling high blood pressure, and encouraging exercise programs.
- Be in Style Trim Your Blood Pressure was the theme for High Blood Pressure Control Month, during which time the Division conducted blood pressure screenings in barber shops and beauty salons throughout the state, to bring the message to the general population in a setting other than a routine health care delivery environment.

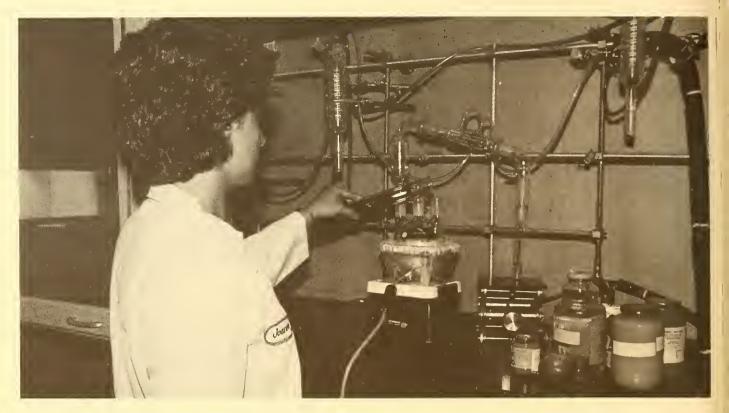


- The Department launched a new program to prevent blindness due to diabetic retinopathy. Screenings took place in the Lions Club Eye Mobile, and results were forwarded to program staff in the Division for follow-up. Sixty percent of new cases of blindness should be prevented as a result of early detection, referral, and treatment.
- In collaboration with others in the Department, the
 Division developed the 1986 Massachusetts
 Health Interview Survey to gather data on the
 prevalence of the major risk factors for the leading
 causes of death and on the prevalence of
 environmental and occupational risk factors. Data will
 be compared with data from the 1980 state survey
 and from national surveys.
- The Division of Environmental Epidemiology and Toxicology, which also includes a Risk Assessment Unit, developed new services to help identify communities for which resources can be targeted to prevent disease, and to provide technical assistance to other agencies and groups. The Division also drafted what will be the first state policy for the identification, classification, and regulation of potential human carcinogens. Several studies were completed or are underway to determine risk factors in critical environmentally related diseases. Since it is not always possible to monitor exposure directly, it was often necessary to infer exposure from studies of health effects:



Lions Club Eye Mobile screening for diabetic retinopathy.

- Cancer mortality and incidence rates in towns on the Upper Cape and in Worcester were investigated. Lung cancer rates were elevated in both areas, and follow-up studies were planned. In addition, cancer mortality and incidence statistics in 13 other towns were reviewed.
- The Division received funding from the National Cancer Institute for its Model Statewide Cancer Prevention Program, which seeks to reduce risks of cancer by controlling exposure to environmental carcinogens.
- Division staff provided guidance on the health risks of 14 pesticides being considered for registration by the Massachusetts Pesticide Board Subcommittee, and developed drinking water guidelines for eight pesticides.
- The Division completed a comprehensive toxicologic assessment of the health effects of sulfiting agents in foods, at the request of the Division of Food and Drugs.
- The Center for Health Education and Environmental Information in New Bedford was opened in October 1985, to serve as a model community outreach program for environmental health issues. Informational services, environmental education programs for children in kindergarten through grade 12, and an Environmental InfoXchange in New Bedford area libraries were developed.
- To aid in assessing health risks to the residents of the Commonwealth, the Division set up a number of quantitative risk assessment computer programs.



Testing heat-processed apple products for levels of daminozide at the Food and Drugs Laboratory.

ENSURING A HEALTHY ENVIRONMENT

The Bureau of Environmental Health Services, through its four divisions, identified and evaluated environmental hazards to human health and developed measures to reduce such risks.

- The Division of Food and Drugs is the principal consumer protection unit in the state in the areas of the safety of food, drugs, and other consumer products. During fiscal year 1986, the Division instituted new projects to ensure a safe and wholesome food supply for Massachusetts consumers:
 - To eliminate potentially harmful chemical residues from the state's food supply, the Division of Food and Drugs recommended to the Public Health Council strict limits on the amount of daminozide, a growth regulator applied primarily to apples, allowed in heatprocessed apple sauce and apple juice. Daminozide has been identified as a carcinogen in animal studies. The Division's recommendation was adopted by the Council.
 - The Division recommended to the Public Health Council the lowering of the amounts of ethylene dibromide (EDB) and polychlorinated biphenyls, both carcinogenic, in food, and continued testing and monitoring food products for these contaminants.
 - The Division's Generic Drug Program added 42
 drugs to the Massachusetts List of Interchangeable
 Drugs, and mailed updated lists to 7,000 pharmacies
 across the state. Amendments to the
 Massachusetts Generic Drug Law require the
 Department to adopt a new one-signature-line format

for prescription blanks, and require pharmacists to dispense a lower cost generic drug for a brand-name product. It was estimated that the Massachusetts Medicaid Program would realize a savings of over \$4 million through the use of generic drugs in fiscal year 1986.

The Childhood Lead Poisoning Prevention Program (CLPPP) increased its efforts to reduce the incidence of lead poisoning in children through public education and the removal of residential lead hazards before children are poisoned:

- Over 166,900 children under the age of six were screened for lead poisoning, the largest annual total to date, and 1,011 children, a decrease of 34 percent, were identified as lead poisoned.
- By the end of the fiscal year, the Department began implementation of the new lead poisoning guidelines from the Centers for Disease Control, which protect children from lead poisoning at lower levels than the ones previously considered "safe."
- To broaden the understanding of the hazards posed by aging housing with lead-based paint in the Commonwealth, CLPPP arranged six conferences for the real estate, insurance, banking, and housing rehabilitation industries.
- The Case Management System, which enrolls all children with elevated blood lead levels and follows their progress until they are discharged, became automated by the end of the fiscal year. Automation will allow more regular reports, and provide primary care providers with updated information on the status of their clients.

Table 4. **Summary of Activities Environmental Hygiene** July 1, 1985 - June 30, 1986.

	the second secon
Facilities	Activities
Housing	448 Initial inspections 103 Reinspections 8 Assumptions of jurisdiction
Correctional Facilities	31 State facility inspections 28 County facility inspections 35 DYS facility inspections*
Office for Children	26 Inspections for licensure of group day-care facilities
Lock-ups	53 Inspections
Recreational Camps	37 Inspections
Fluoridation Sites	302 Visits
Farm Labor Camps	62 Camp certifications
Microwave Ovens	63 Inspections
*DYS - Division of Youth Service	es.

Quality Assurance Program at Radiation Counting Laboratory.

The Division of Community Sanitation, through its three units — Environmental Hygiene, Urea Formaldehyde Foam Insulation (UFFI), and Right-to-Know — carried out activities to protect the health of the residents of the Commonwealth from environmental hazards (Table 4).

- To provide housing code inspectors with an understanding of, and rationale for, provisions of the state housing code, the Division organized a major, three-day training program attended by over 200 inspectors.
- Staff worked with officials of the Town of Easthampton in the formation of a board of health separate from the Board of Selectmen. Such action will ensure that greater attention is given to health activities.
- By the end of the fiscal year, the Division had begun plans for the implementation of the new UFF! Law, the result of a consensus reached among the Department of Public Health, homeowners with UFFI in their homes, industry, and other concerned citizens. The new law established a UFFI Trust Fund to pay for air testing in residential dwellings insulated with UFFI, and to provide funds for removal of UFFI from dwellings that qualify for the removal program.
- Under the provisions of the Massachusetts Rightto-Know Law, the Department amended the Massachusetts Substance List to include 48 additional substances and two generic substances, asbestos and chromium.

The Radiation Control Program, which is responsible for protecting the public from both ionizing and nonionizing sources of radiation, developed new programs to protect the health of the population:

- Staff conducted a special survey of all mammography units throughout the Commonwealth and collected data on dosages, frequency of use, number of patients examined. image quality, and range of exposures.
- Staff established a quality assurance program at the Department's Radiation Counting Laboratory. capable of analyzing environmental samples. The laboratory has participated in, and has been approved for, the U.S. Environmental Protection Agency's laboratory certification program.
- The Radiation Control Program conducted extensive environmental monitoring across the state during the spring of 1986 in response to the accident at the nuclear power plant at Chernobyl, in the Soviet Union. Continuous monitoring of the ambient air, water supplies, some food products, and dairy farms gave assurances that the Chernobyl accident did not result in detectable increases in radiation in Massachusetts.

PROVIDING PATIENT CARE SERVICES The Bureau of Health Care Systems is responsible for ensuring high-quality health care at reasonable cost to the people of the Commonwealth. It also has responsibility for preventing unnecessary expansion or renovation of health care facilities that add to the cost of health care.

ORGAN TRANSPLANTATION SERVICES

The Division of Organ Transplantation Services implemented the Organ Transplant Fund during fiscal year 1986. Guidelines and application procedures were developed and the first transplant recipients enrolled. Contributions to the fund come from the state's taxpayers who check the appropriate box on their state income tax returns. The fund, the first in the nation, assists Massachusetts residents with the costs of medically approved organ transplants. Guidelines for the fund seek to assist as many patients as possible with the costs of a transplant not covered by insurance. The fund will continue to enroll as recipients, through expanded outreach programs, persons who received transplants before 1985 but who are still on drug therapy.

EMERGENCY MEDICAL SERVICES

The Office of Emergency Medical Services (OEMS) expanded its efforts to reduce deaths from cardiac disease, traumatic injuries, and other medical emergencies through the introduction of new approaches:

- OEMS conducted a special public education campaign — Killing Time Waiting to Feel Better Could Kill You — to alert people to the importance of paying attention to the early warning signs of a heart attack.
- OEMS maintained support of the Cardiopulmonary Resuscitation (CPR) Registry, an innovative approach to providing public information on CPR which lists all CPR training institutions in the state in a continually updated resource directory.
- In fiscal year 1986, the Office of Emergency Medical Services began upgrading all basic emergency medical technicians to allow them to use the Pneumatic Anti-Shock Garment under medical direction, thus improving their ability to stabilize some of the most dangerous injuries in the field and to provide special care for victims in shock.

Over 8,000 Massachusetts residents will die of a heart attack this year. Two-thirds die before they reach the hospital – many waiting up to three hours before calling for an ambulance.

Don't be one of them. Don't wait to call for help. Know the early warning signs of a heart attack:

- pain, tightness, pressure or discomfort in your chest, arm, abdomen, neck or jaw
 nausea, especially if accompanied by sweating
- a feeling of weakness or dizziness
- difficulty breathing

If you suffer any of these symptoms or are with someone suffering from them, get help.

Fast. Use your telephone. Call your local emergency ambulance service 24-hours a day. Their number is listed inside the front cover of your phone book. Look it up, write it down, carry it with you.

Because killing time waiting to feel better could kill you.

Office of Emergency Medical Services, Regional EMS councils and your local Emergency Medical Service provider.

Commonwealth of Massachusetts – Michael S. Dukakis, Governor.

HEALTH CARE QUALITY

In fiscal year 1986, the **Division of Health Care Quality** developed programs to guarantee access to care for patients and access to the health care market for providers. The Division played a major role in the implemention of the Prospective Payment System for Medicare, which became effective in Massachusetts in October 1985, and under which hospitals are reimbursed for each patient on a per case basis according to Diagnostically Related Groups (DRGs).

- In response to the new reimbursement program, the Divison of Health Care Quality established within its Patient Protection Unit an Advocacy Office to receive, review, investigate, and resolve complaints of alleged discrimination against Medicare patients by hospitals. Between January and June 30, 1986, the Advocacy Office received more than 130 complaints ranging from denied or delayed hospital admissions to premature discharges.
- The Division received funds to test a new prospective nursing home reimbursement system that provides nursing homes with incentives to care for patients traditionally denied access because of their need for more intensive nursing care.
- The Division brought action to place in receivership three rest homes, one chronic disease hospital, and three intermediate care facilities for the retarded, thereby protecting over 425 patients from substandard providers.
- The Division developed major reviews of the suitability of nursing home owners and operators to screen out owners who have poor records of operating nursing homes, or who are financially unable to provide adequate care.
- The Division also carried out research studies, evaluations of innovative projects, and developed or revised regulations to identify and respond to changes in the health care delivery system. These included recommendations to develop a new set of regulations for mentally ill patients in rest homes, and convening a task force to develop guidelines for responding to the special needs of patients with Alzheimer's disease in long-term care facilities.
- The Division promulgated Patient Abuse Regulations to protect patients in long-term care facilities from abuse, mistreatment, and neglect. The Division investigated approximately 305 separate complaints, an increase of 45 percent over the previous year (Fig. 4), the result of a stepped-up campaign of public information and the toll-free patient abuse hot line.

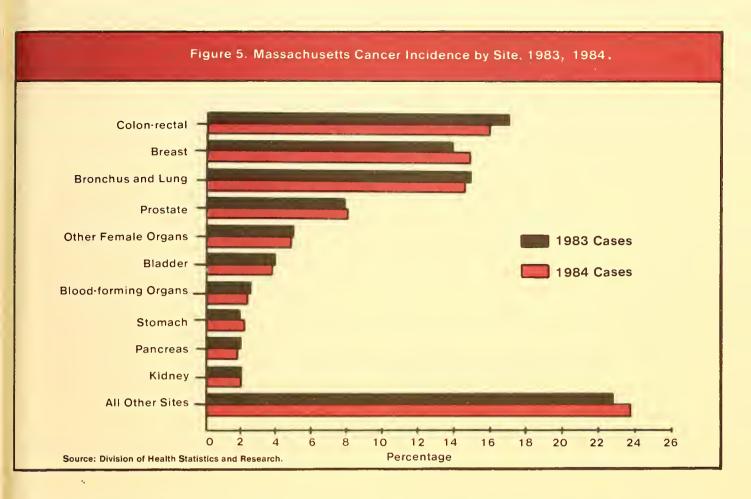
Figure 4. Monthly Complaints Received by the Division of Health Care Quality, 1982 - 1986.

30
25
20
15
10
1982 1983 1984 1985 1986
Source: Division of Health Care Quality,

CONTROLLING HEALTH CARE COSTS

The main objectives of the Department's **Determination** of **Need (DON) Program** included reduction of overall health care costs by preventing duplication of services, promotion of health care needs of the people, and promotion of equitable geographic and socioeconomic access to health care.

- In fiscal year 1986, DON staff greatly reduced the approval rate (the ratio of total maximum capital expenditures requested as compared to the amount approved) from 89 percent in 1982 to 52 percent in 1986.
- Staff made substantial progress in improving the efficiency of project review. In fiscal year 1986, 86 hospital applications were reviewed as compared to 60 in the previous year.
- Staff also developed guidelines to expedite project reviews and streamline the process for end stage renal disease, long-term care standards, continuing care retirement communities, Alzheimer's disease, radiation therapy, and inpatient psychiatric care. The latter guidelines seek to ensure the development of appropriate placement settings for children and adolescents who require inpatient psychiatric care.



HEALTH STATISTICS AND RESEARCH

The Division of Health Statistics and Research provided coordination of health data among agencies that collect and use such data, and statistical standards and technical assistance to users of health and demographic data. Statistics compiled by the four units of the Division were an important guide to the Department in setting priorities, in formulating and implementing health policy decisions, and in evaluating program results. Major activities of the Division in fiscal year 1986 included the following:

- As part of a cooperative agreement with the National Institute of Safety and Health to develop an analytical surveillance system of the relation of occupation to mortality and birth outcomes, the Registry of Vital Records and Statistics coded all deaths and incidences of cancer and a sample of birth records for occupation and industry.
- To improve the analytical surveillance system of the relation of occupation to mortality and birth outcomes, the Research and Epidemiology Unit developed specialized software. Cancer incidence and death certificate data were used to assess the occupational patterns of persons diagnosed with mesothelioma,

- and to study the pattern of cancer among welders and workers in the health care industry.
- The Massachusetts Cancer Registry completed the processing of 1984 cancer incidence data (Fig. 5). Staff participated with the Center for Health Promotion and Environmental Disease Prevention in several special community studies, and assisted outside researchers in assessing the cause of laryngeal, ovarian, rectal and oral cancer. The identification of Kaposi's sarcoma in young men due to the spread of AIDS showed a dramatic increase of over 50 percent in 1984.
- The Division implemented direct entry of birth information from hospitals to the computer files of the Registry of Vital Records and Statistics, the first such program in the nation. Operating on a pilot basis at three large maternity centers in the Greater Boston Area, the program provided an efficient, computerized collection of data and eliminated data entry and transcription errors inherent in manual methods.
- As part of its public information activities, the Division expanded its collaboration with outside agencies, including an innovative study with the Harvard University School of Medicine on the relation of circadian rhythms to cardiac deaths.

CENTRAL SUPPORT SERVICES The Department of Public Health staffs other divisions and offices whose main tasks are support and coordination of services to assist program units and divisions in carrying out their assigned responsibilities.

LEGAL AND LEGISLATIVE SERVICES

The Office of the General Counsel, which is the legal liaison between the Department and the public, provided other divisions with the legal knowledge and support required in promulgating regulations to protect the health and safety of the people of the Commonwealth. New regulations on pediatric nursing homes, UFFI Trust Fund, patient abuse and neglect, and the amount of daminozide allowed in foods, as well as a complete rewriting and updating of the State Sanitary Code relating to retail groceries and restaurants, and a change in the Generic Drug Law, were developed by the Office staff.

The Office of Policy and Planning, which coordinated all legislative activities for the Department and proposed policy recommendations on agency priorities, acted as a liaison with constituent groups of health providers and consumers in the state. During fiscal year 1986, the Office coordinated testimony and tracked the progress of 18 bills filed by the Department and of 376 health-related bills supported by the Department.

BUREAU OF MANAGEMENT SERVICES

The Bureau of Management Services includes the Divisions of Fiscal Resources, Data Processing, Human Resources, Labor Relations, Affirmative Action, Central Services, and the Central Library. To assist the Department's programs in responding more effectively and efficiently to the health needs of the consumer, the Bureau implemented important programs in fiscal year 1986:

- Standardized the fiscal components of the Department's \$70 million purchase of service system to be applied throughout the Department.
- Implemented the Commonwealth's Model Integrated Data Accounting System (MIDAS), a computerized system for paying bills and reporting expenditures, thereby shortening the time providers were required to wait for payment.
- Worked with the Lemuel Shattuck Hospital and a private accounting firm to maximize revenue from retroactive as well as current billings. As a result, the hospital realized \$3 million in additional revenue in fiscal year 1986.

- Increased efforts to direct the Department's purchasing to certified small business and minority vendors under the Commonwealth's Small Business and Minority Business Enterpise programs.
- The Central Library made information more easily accessible to the Department's staff by becoming part of three additional computer systems. The MINET System, a collection of computerized services, includes an electronic mail network (MED/MAIL), a factual drug data base, and a factual data base for diagnosis of disease. The library used the capabilities of the MED/MAIL system to send an emergency request for a liver donation, and to survey perinatal care standards of other states.

HEALTH EDUCATION RESOURCE DIRECTORY MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH SERVED SERVED

PUBLIC INFORMATION AND HEALTH EDUCATION

The Office of Public Information and Health Education, which is primarily responsible for keeping the public up-to-date on public health issues, expanded its activities to respond to the many changes in public health. In fiscal year 1986, the Office:

- Assisted in the development and coordination of eight statewide public education campaigns that alerted the public to the early warning signs of a heart attack; the common risk factors for heart attack, cancer, and stroke; the importance of prenatal care and the prevention of infant mortality; the health risks of smokeless tobacco; AIDS; domestic violence; and diabetic retinopathy.
- Organized the Press Ahead Campaign, which included 12 major news conferences, and more than 60 interviews and broadcast appearances by Departmental senior staff, to bring important public health issues to the attention of the public.
- In conjunction with the Office of Local Health
 Services and Regional Operations, coordinated a
 series of regional tours by Department of Public
 Health senior staff to meet with local health and town
 officials, community groups, and the press to discuss
 the state's public health goals and initiatives.
- Prepared a directory of health education resources available in the Department and revived SPECTRUM, the Department's quarterly newsletter.

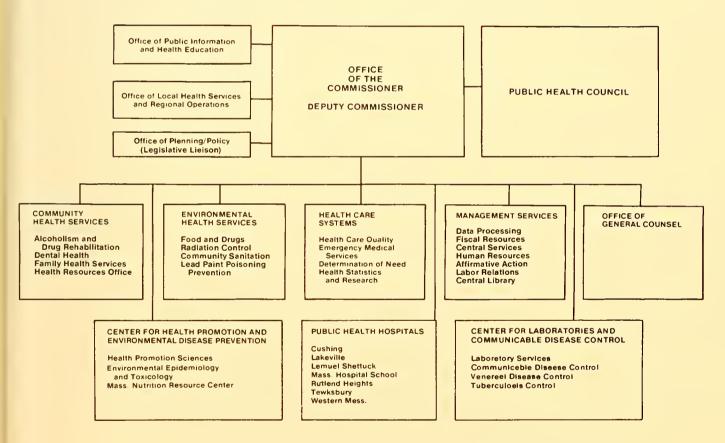
By the end of the fiscal year, the Office was preparing to update the **Health Education Resource Directory** and the **Guide to Free and Inexpensive Health Education Materials**, and to conduct a statewide conference on the prevention of interpersonal violence in fiscal year 1987.

Department of Public Health Expenditure Report July 1, 1985 - June 30, 1986.

	State	Federal	Total
Commissioner's Office	\$ 955, 7 64	_	\$ 955, 76 4
Management Services	3,238,092	_	3,238,092
General Counsel	428,260		428,260
Sub Total	4,622,116	_	4,622,116
Center for Health Promotion &			
Environmental Disease Prevention			
Environmental Epidemiology & Toxicology	854,401	67,792	922,193
Health Promotion Sciences	540,002	677,504	1,217,506
Sub Total	1,394,403	745,296	2,139,699
Office of Local & Regional Health Services	786,975	529,559	1,316,534
Community Health Services			
Family Health Services	19,532,998	11,435,818	30,968,816
Alcoholism	23,509,290	4,384,039	27,893,329
Drug Rehabilitation	7 ,86 7 ,221	4,582,517	12,449,738
Nutrition	4,814,555	26,082,286	30,896,841
Dental Health	2,429,555	262,550	2,692,105
Fluoridation Reimbursement	108,163	_	108,163
Community Health Services	1,635,689	_	1,635,689
Uncompensated Care	2,900,000		2,900,000
Sub Total	62,797,471	46,747,210	109,544,681
Environmental Health Services			
Lead Poisoning Prevention	1,135,092	660,000	1, 7 95,092
Radiation Control	325,596	34,057	359,653
Food and Drugs	1,507,389	_	1,507,389
Community Sanitation	46,701	_	46,701
Right-to-Know	173,322		173,322
Sub Total	3,188,100	694,057	3,882,157
Health Care Systems			
Health Care Quality	4,111,601	7 60,989	4,8 7 2,590
Determination of Need	896,108	_	896,108
Emergency Medical Services	635,579	1,017,648	1,653,227
Health Statistics	1,707,612	1,857,413	3,565,025
Sub Total	7,350,900	3,636,050	10,986,950
Social and Communicable Disease Control			
AIDS	1,392,594	15,665	1,408,259
State Laboratory	13,482,978	1,562,730	15,045,708
Sub Total	14,875,572	1,578,395	16,453,967
Hospitals			
Cushing Hospital	13,987,884	_	13,987,884
Lakeville Hospital	8,988,688	_	8,988,688
Lemuel Shattuck Hospital	22,603,077	_	22,603,077
Massachusetts Hospital School	8,022,524	_	8,022,524
Rutland Heights Hospital	8,010,749	_	8,010,749
Tewksbury Hospital	23,305,594	_	23,305,594
Western Massachusetts Hospital	6,670,915		6,670,915
Sub Total	91,589,431	_	91,589,431
TOTAL	\$ 186,604,968	\$ 53,930,567	\$ 240,535,535

EXECUTIVE OFFICE OF HUMAN SERVICES MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

June 30, 1986



The Commonwealth of Massachusetts Michael S. Dukakis, Governor

Executive Office of Human Services
Philip W. Johnston, Secretary

Department of Public Health
Bailus Walker, Jr., Ph.D., M.P.H., Commissioner
Chairman, Public Health Council

Public Health Council

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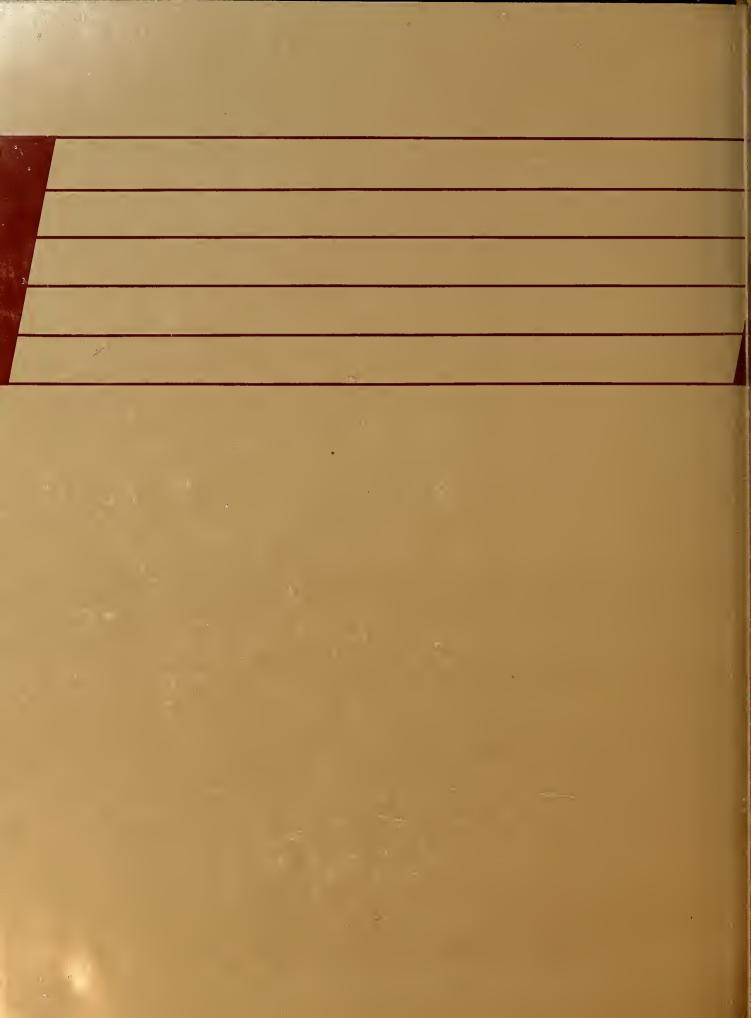
Dennis Sterzin

June 30, 1986

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